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The Mississippi Doctor

VOL. 20 BOONEVILLE, MISSISSIPPI, JUNE, 1942 NO. 1

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[1] Levin, E. A. & Keddie, Frances: *J.A.M.A.* 118:368, 1942

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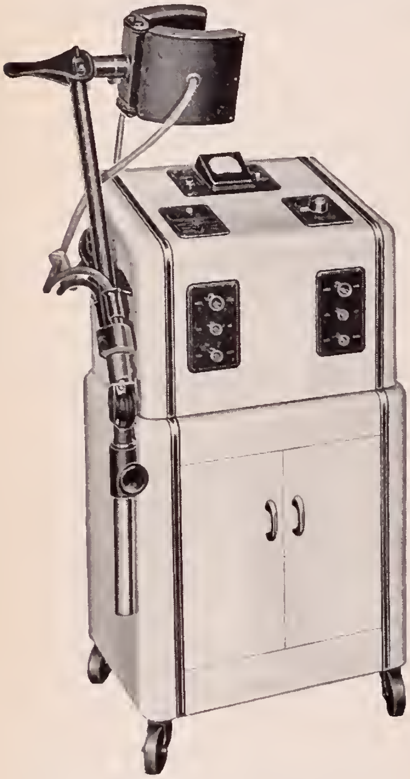

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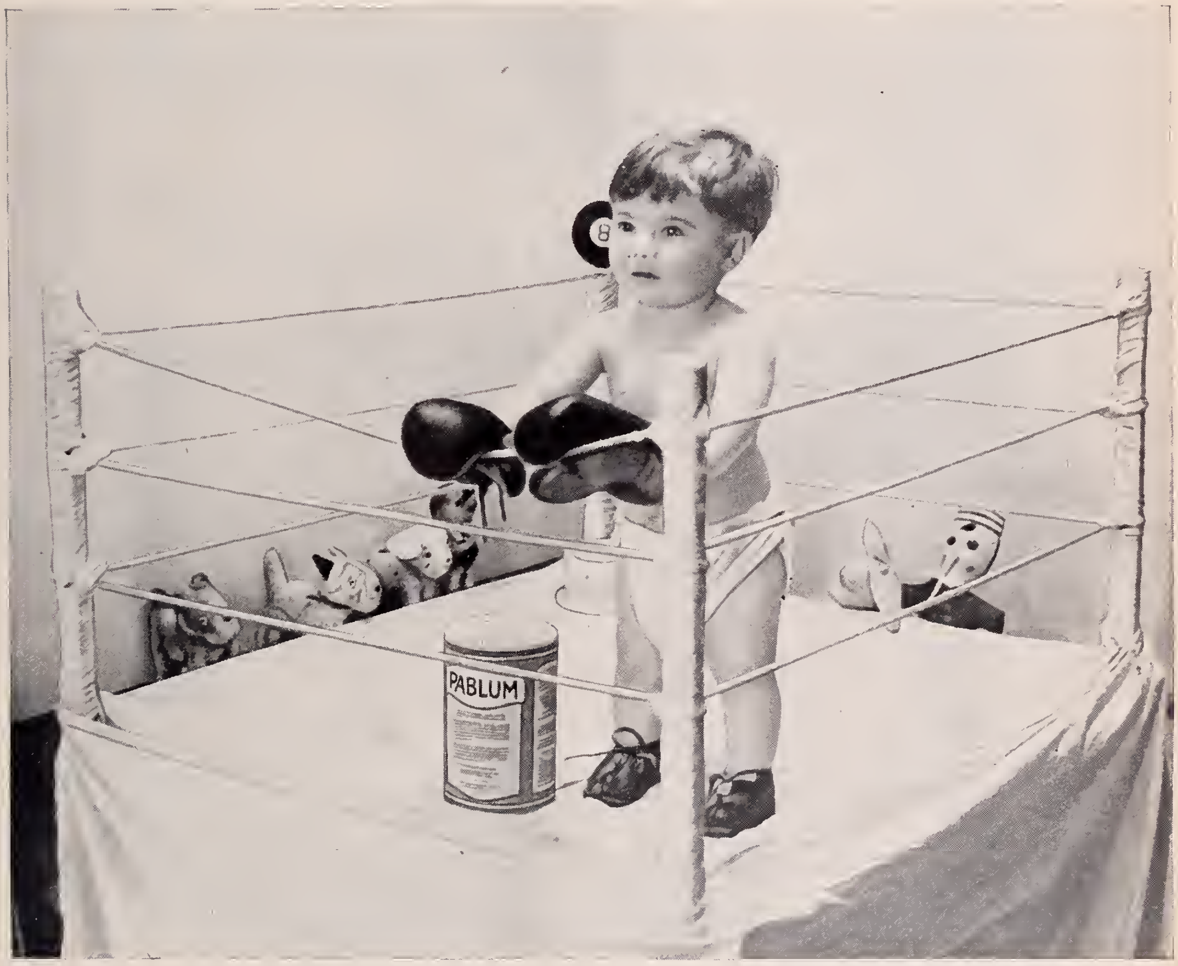
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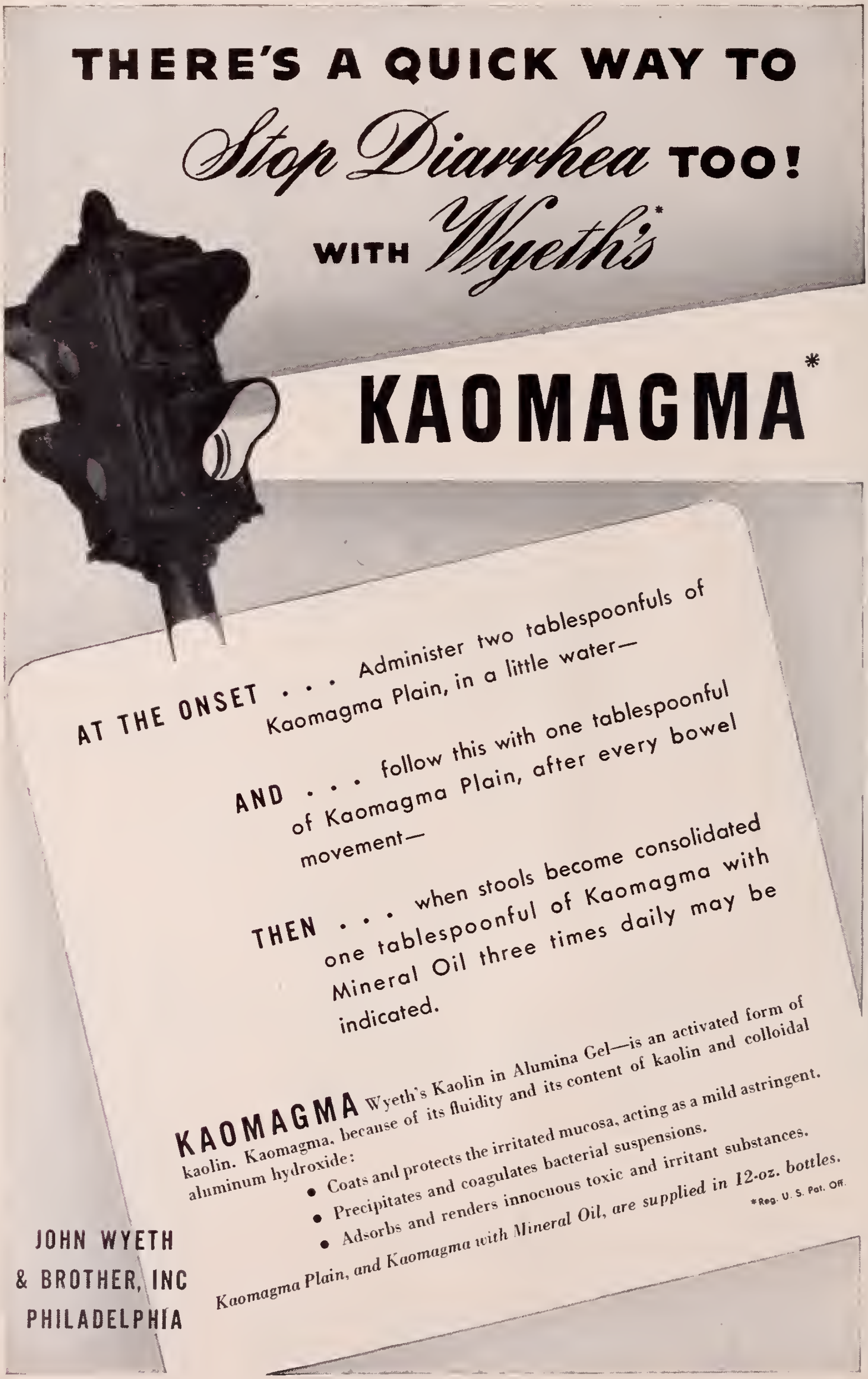

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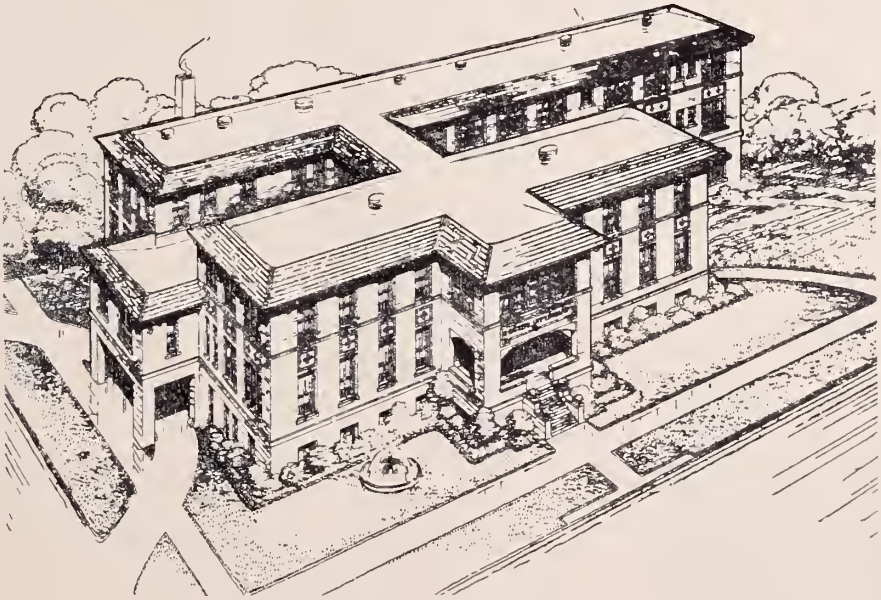

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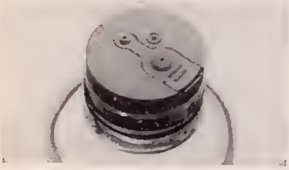

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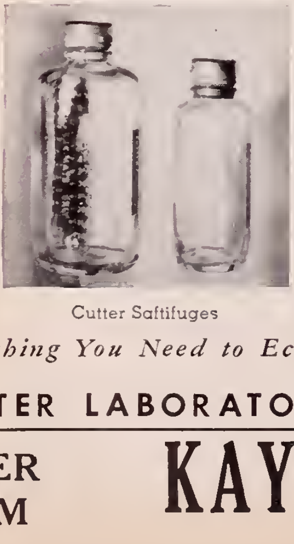

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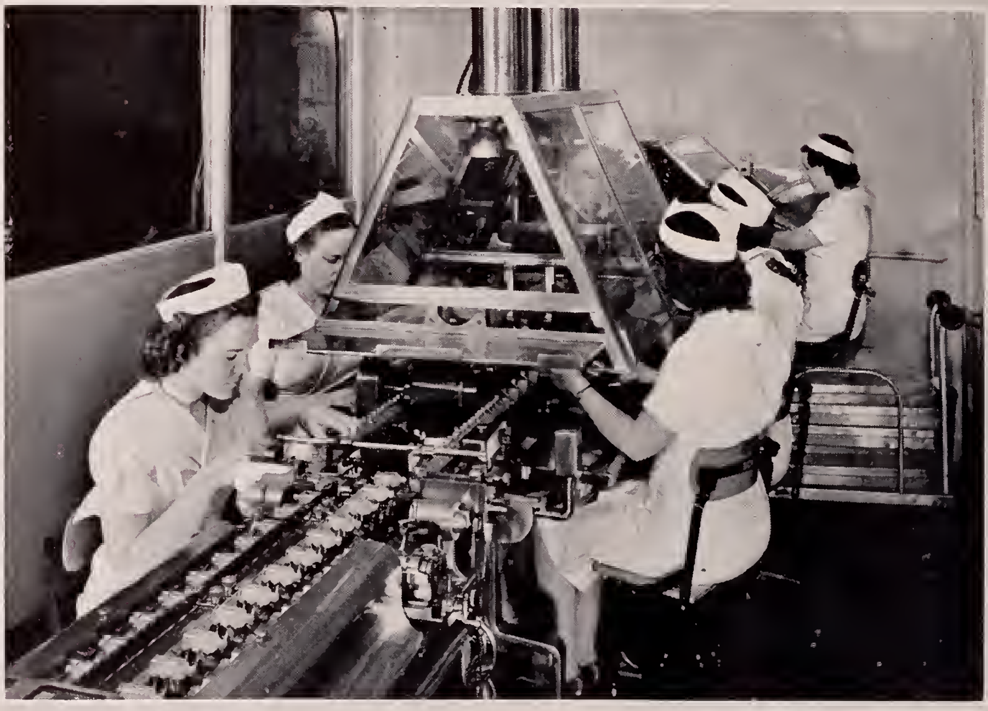

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The Medical Profession Today*

AUGUSTUS STREET, M.D.
VICKSBURG, MISS.

MEMBERS AND GUESTS, I am grateful to the Mississippi State Medical Association for the coöperation rendered during the past year. You officers, members of the Council, and committees have been active and have served with efficiency. Your committee on Public Policy and Legislation, which consisted of Doctor Underwood, Doctor Boswell and Doctor Anderson, have served during the recent session of the Mississippi Legislature and have done everything in their power to safeguard the interest of the citizens of our state where the prevention or cure of disease has been involved. Many of the doctors and the public do not know what this committee had to deal with, and time does not permit me to go into that now; but I do want to say that the interest of the public insofar as health legislation is concerned was adequately safeguarded in the recent legislative program.

Speaking for the Association and as one of the citizens of Mississippi, I would like to say that in Governor Paul Johnson we have a noble, unselfish, and untiring worker for the betterment of the health and welfare of the people of our state. Due to the present world calamity, the governor was forced to abandon a part of the hospitalization program which he intended to provide for the indigent sick. He wisely recognized that military production and war economy take priority over our local civilian needs. Even so, the state hospitalization system is now more adequate than before.

Speaking in the same capacity, I want to congratulate the members of the Mississippi State Legislature. From my personal contact with some of them, and from expressed opinions of many, the legislature obviously wants to expand and perfect our state's program for prevention of disease and cure of the unfortunate sick. They apparently realize that the present program, although a good beginning, leaves much opportunity for improvement. Ultimate perfection of this program will not occur overnight. We can only hope for gradual and progressive improvement. I believe I am safe in saying that the record of the last legislature is the best on health legislation it could possibly have been in face of the present emergency.

I now take the opportunity of extending congratulations to our next president of the Mississippi State Medical Association, Doctor H. Lowry Rush, and to wish him success during his term of administration and to put my willing service at his disposal if it can be at all useful.

We want to practice the Golden Rule in our Association as much as possible; however, we should not be satisfied with merely doing unto others as we would have them do unto us, or living to let live. If we apply this axiom to our own lives by putting our house in order first, then we will be better able to help our own community and nation in a more ideal way.

You who have had a part in the accomplishments of this Association can look backward with pride and forward with confidence. Those who take an honest pride in the past have every right to have faith and courage for the future.

Our task today is to achieve perspective. The cynic tells us: "The young have aspirations that never come to pass; the old have recollections of things that never happened," but we know that things believed utterly impossible have come to pass, and will continue to do so.

Unity today is essential to the success of our present urgent national task. The Mississippi State Medical Association was created to provide unity of the profession in order to attain certain objectives, the first of which is to forward improvement of medical service offered to the public. Your Association establishes standards of undergraduate and graduate medical education. It encourages postgraduate education. It supports the advance of medical knowledge beyond that of the present by encouraging research, so that we may have some chance of helping people in the future who may suffer from ailments for which we now offer nothing.

---

*President's Address delivered before the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 1942.

In order to assure the public of the advantages of educational requirements, Mississippi maintains the State Board of Health and the State Licensing Board. Some of you may remember a time when freaks, medicine vendors, or quacks could prey upon the ignorance or emotions of the people, without any legal restraint. They may do some of this now; but our government makes it so hard to ply this nefarious trade that very few persist. Along the same line many will recall the time when patent medicines were sold without regulation. Nothing was patented except the name, and the ingredients could be changed at will. Naturally, habit forming medicines resulted in more repeat customers, and as narcotics were sold without restriction the most popular patent medicines were those containing narcotics. The Harrison Law stopped that racket, and stopped some of the general public from innocently addicting themselves to narcotic drugs.

Some now exploit the public by urging the use of their particular laxative or headache remedy for relief of undiagnosed disorders. The taking of such medicine may sometimes afford relief; but too frequently the result is unnecessary disaster.

The Pure Food and Drug Law also protects the public from the open sale of misbranded and adulterated food.

I have mentioned only a few examples of the safeguarding of public health and welfare accomplished by our medical organization.

Knowledge of scientific medicine has so vastly increased during the past half century that one man could hardly hope to become expert in all of it. To overcome this difficulty the profession has encouraged a sort of team work among its members, various members devoting themselves to different branches of medical science, under the so far rather loose classification of specialists. A specialist is a doctor who has more or less mastered one branch of medical science. The character of his performance may make him stand out above the run of the profession. The fact that he is a specialist does not.

The primary demand for medical service of the great majority of men and women is for the service of the general practitioner. He is a specialist in his line and he should be accorded more recognition that he seems to be getting.

If a specialty requires standards of attainment, the general practitioners can certainly find plenty of rigid ones in their branches. If a specialty requires standards of practice, conduct and performance, the general practitioner will have no difficulty in providing such standards for his specialty.

I suggest that the general practitioners of the state of Mississippi establish a board of general practitioners and agree on standards of education, proficiency, and performance as other specialty boards have done; that the duty of this board shall be to examine applicants and issue certificates of qualification to those found to be doing or qualified to do general practice of medicine according to the minimum requirements of the board.

It should be interesting to have some sort of idea of just what is in the minds of the young doctors who are being graduated from our medical schools and who are taking interne service in our hospitals. I recently talked to a teacher of medicine who is on the board designated to select internes for a large hospital located in Atlanta, Georgia. He stated that at a recent meeting of the board there were *ninety* applicants for the surgical residency, and *none* for the medical residency. I have talked to teachers from other schools, and to medical students from various schools, and gathered the impression that the idea uppermost in the minds of the usual medical student is to get out and start wielding the knife as soon as possible. If circumstances force these recent graduates out into general practice, they are not doing what they think they want to do, what they are interested in, or what they have tried to prepare themselves to do. In many instances the result is utter waste of medical education.

Possibly medical schools might balance their enrollment each year by accepting desirable applicants who specify their preference for the branches of medicine most needed by the public. This apportionment should provide a good percentage who enroll with the intension of becoming practitioners of medicine, not surgeons, not internists, but general practitioners—doctors; qualified and willing to care for the usual ailments of patients, ready and able to refer them to other specialists when necessary.

While medical care today has become more efficient it has also become more complicated, and involves more facilities, both for diagnosis and treatment. In diagnosis a good history and physical examination are always most essential; but not always the most expensive procedure. The public demands and is entitled to the information and advantage which may come from carefully done laboratory analysis, x-ray, electro-cardiographic, and other precision methods of diagnosis. The public also demands the best of treatment. In addition to the personal service of the doctor, this often involves expensive drugs, serums, apparatus and supplies, services of paid personnel, hospital and nursing service. Some can easily meet this expense. Many cannot. Regardless of its desire to extend the benefits of medical service to all the public, members of the medical profession themselves are unable to pay the expense involved. If the state or any other agency has enough interest in the health of the indigent public to provide funds to make good medical service available to them, our profession is very much in favor of it. We offer our aid, advice and sincere support; but go no further. We do not invite bureaucratic and political control of the medical profession itself.

Hospital service organizations, now so successfully operating throughout the country, provide a means whereby people of limited income may easily, and without financial strain, budget their hospitalization expense.

Above all, we seek what is best for our patients. If there is a better way to practice medicine, we want to practice it that way; but we feel sure that the practice of medicine under a system of political control is not best for our patients. We have a humanitarian service to perform. It can be accomplished by organization, coöperation, education, devotion and freedom.

Our country is at war. Our doctors are at war on the battlefield and at home. All of us are at war. Americans in various walks of life, in three age groups, have trekked to the registration booth; regardless of race, creed, or position in life—all, rich and poor, are accorded the same treatment. An overwhelming majority are ready and willing to perform any service their country may ask of them. I feel safe in saying that all active practitioners of medicine in our state have enrolled with the Procurement and Assignment Service, indicating their professional and physical qualifications. Some will be added to those already serving on the field. Some will be assigned to home service. All will serve.

Members of the Association, it has been a privilege and an opportunity to be your president. The component society meetings which I have been able to attend have all been profitable and I congratulate you on the excellence of your meetings and programs. Today as always, we need and have with us faith, hope, and charity—faith in our country's fight for right, freedom and justice, hope for an early victory, and I beg your charity when measuring the value of my sincere but feeble efforts to serve you.

Sulfaguanidine As A Chemotherapeutic Agent In Intestinal Infections*

E. K. MARSHALL, JR.
Department of Pharmacology and Experimental Therapeutics,
The Johns Hopkins University
BALTIMORE, MD.

SULFAGUANIDINE (sulfanilylguanidine) was apparently first prepared by Buttle et al.[1] who, from its mode of formation, ascribed an erroneous constitution to their product. The fact that their product was not the N^4- but the N^1-guanidine derivative of sulfanilamide was pointed out by Marshall and co-workers[2,3]. Dewing and Smith[4] confirmed this fact. The compound was first described as such by Roblin et al.[5] who encountered it accidentally in the course of a study of the synthesis of heterocyclic derivatives of sulfanilamide. They stated that the compound was only slightly active against bacterial infections. Independently, Marshall, Bratton, White and Litchfield[6] described the preparation of the drug, its pharmacology and toxicity, and its effectiveness against various bacteria *in vitro* and *in vivo*, and suggested that it possessed properties which might make it valuable in the treatment of bacterial infections confined entirely or mainly to the intestinal tract.

It is now a little over a year since sulfaguanidine was introduced clinically as possible effective treatment for bacillary dysentery[7]. It may be of interest for me to review the experimental basis underlying the introduction of this sulfonamide into clinical use, as well as the evidence for its therapeutic value which has since been published, and discuss its value as compared to other drugs used as intestinal chemotherapeutic agents.

In a pharmacological study of various sulfonamide drugs in an effort to find a drug as active as sulfapyridine against pneumococcus infections and less toxic to the host, Marshall, Bratton, White and Litchfield[6] encountered several compounds which were water-soluble but quite poorly absorbed from the gastrointestinal tract. Since sulfaguanidine appeared to be the most active of these drugs against various bacteria, a pharmacological and therapeutic study of this compound was undertaken. The idea of a drug which is fairly water-soluble and therapeutically active but poorly absorbed from the intestine presents a new principle in the use of bacterial chemotherapeutic agents; the fundamental principle involved is the achievement of a high concentration of drug in the intestine and a low concentration in the blood and tissues, a situation somewhat analogous to the use of sulfonamides as urinary antiseptics.

Sulfaguanidine is soluble in water at body temperature to the extent of a little over 200 mgm. per cent: this is greater than the solubility of sulfaypridine, sulfathiazole or sulfadiazine, but much less than that of sulfanilamide. In contradistinction to the other sulfonamide drugs in clinical use, sulfaguanidine is not soluble in alkali and hence a soluble sodium salt cannot be prepared. This drug is determined in blood, urine, body fluids, and tissues by the method used for estimating sulfanilamide[8]. It is acetylated in the mouse, rabbit, monkey and man but not in the dog.

When sulfaguanidine was given *per os* to mice, it was found that the blood concentration-time curves were nearly the same for small and for large doses. This was quite different from what had been found for sulfanilamide. Sulfapyridine, sulfathiazole and sulfadiazine when administered in different doses to mice resembled sulfanilamide more than sulfaguanidine. The same independence of the blood concentration-time curves of the size of dosage is seen in dogs after the administration of single doses of sulfaguanidine by mouth. This is shown in figure 1, where the data are also given of an experiment on the intravenous injection of the drug. Excretion in the urine is also presented. When the same total dose of drug divided into several equal portions is given at 3-hour intervals in contradistinction to administration as a single dose, the maxi-

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*Presented at the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, on February 13, 1942.

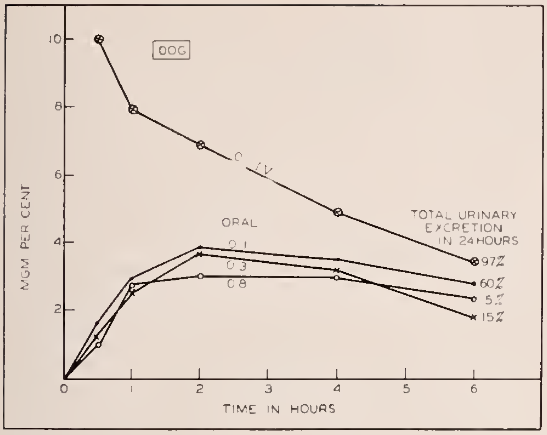

Figure 1. Blood concentration-time curves after administration of sulfaguanidine. Figures on curves give doses in grams per kilogram. Drawn from the data of Marshall, Bratton, White and Litchfield (6).

mum blood concentration obtained may be doubled. The explanation of this is probably that absorption occurs mainly in the small as opposed to the large intestine. Renal clearance determinations of sulfaguanidine in the dog show that it is excreted about three times as rapidly as in sulfanilamide.

In figure 2, blood concentration-time curves are shown after administration of sulfaguanidine to normal men.

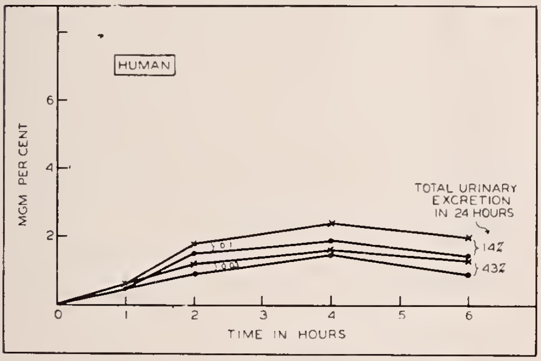

Figure 2. Blood concentration-time curves after administration of sulfaguanidine to normal man. Curves with dots (. . .) represent free and curves with crosses (+ + +) total drugs. Figures on curves represent dosage in grams per kilogram. Drawn from the data of Marshall, Bratton, White and Litchfield(6).

A study of the activity of sulfaguanidine showed that this drug was slightly less active than sulfanilamide against a streptococcus infection and as active as sulfapyridine against a pneumococcus infection in mice. This conclusion of comparative activity was based upon blood concentration of the drugs necessary to give the same therapeutic response. *In vitro*, sulfaguanidine and sulfanilamide were equally effective against *E. coli* and the Newcastle and Flexner strains of dysentery bacillus; sulfanilamide was slightly more effective against *E. typhi* and the Shiga and Sonné strains. In other experiments, the minimal bacteriostatic and bactericidal concentrations of sulfanilamide, sulfapyridine and sulfaguanidine were determined for a strain of steptococcus, pneumococcus, Shiga dysentery bacillus and 5 strains of *S. paradysenteriae*. These experiments indicated that sulfaguanidine was equally as active or slightly less active than sulfapyridine against the strains tested. In experimental animals, it is difficult or impossible to reproduce bacterial infections similar to those which are confined to the intestinal tract of man. Therefore, sulfaguanidine was fed to mice and the coliform bacteria of the stools investigated. It was found that a marked reduction of the concentration of coliform bacteria was produced.

The data which have been summarized above suggested that sulfaguanidine or some drug having similar properties might prove effective in the treatment of certain bacterial diseases which are localized mainly or entirely in the intestine, e.g., bacillary dysentery, cholera, and typhoid in its early stages, Since such diseases cannot be produced in animals, no direct experimental assessment of the therapeutic value of the drug could be obtained However, this drug is one of the few sulfonamides which have been shown to be as effective as sulfapyridine against pneumococcus infections in mice; its administration can reduce the number of coliform organisms in the intestinal flora of normal mice; and *in vitro* it is equally or more active than sulfanilamide against various bacteria. All of these facts argued that sulfaguanidine might be of value in the chemotherapy of intestinal diseases.

The assessment of the probable toxicity of the drug, when used in patients, was essential before clinical trials of the drug could be undertaken. Acute and chronic toxicity experiments were made on mice, rabbits and dogs. Sulfanilamide, sulfapyridine and sulfathiazole were used as standards of comparison. On the basis of all experiments, it appeared that sulfaguanidine, when given by mouth, was no more and probably less toxic than sulfapyridine and sulfathiazole. Corwin[9] confirmed these findings in a study of the chronic toxicity of the drug in rabbits, dogs and monkeys. Firor and Poth[10] record the fact that many dogs survive the enormous dose of 5 grams per kilogram per day of sulfaguanidine for 50 days: this fact is additional evidence for the very low toxicity of the unacetylated drug.

While the experimental study of sulfaguanidine, which has been summarized above, was in process of publication, Marshall, Bratton, Edwards and Walker[7] attempted a preliminary assessment of the value of the drug in bacillary dysentery in children. So few cases were observed that it was impossible to attempt a controlled experiment, and all children thought to have acute bacillary dysentery and ill enough to require hospitalization were treated with the drug. Only 17 cases, where the diagnosis was substantiated by the recovery of the dysentery organism from the stools, were available for treatment. In children treated early in the disease the results were uniformly good, while in those treated late in the disease the results were inconstant and difficult to evaluate. These results suggested that the drug would prove very useful in the treatment of early cases of acute bacillary dysentery, but the absence of a control group without the drug prevented definite evaluation.

In this preliminary clinical study of sulfaguanidine, conclusions regarding the behavior of the drug which had been deduced from animal experimentation were found to be valid for the human subject. Thus, it was found that one could attain and maintain saturation of the intestinal contents with the drug with comparative small amounts of drug present in the blood and tissues. Also this study suggested the most satisfactory schedule of dosage of the drug for trial in intestinal chemotherapy.

The first controlled study of the effect of sulfaguanidine in bacillary dysentery was that of Lyon[11] who used the method of selecting alternate patients for treatment with the drug. In a group of 23 cases treated with the drug, Lyon reported an almost unbelievable improvement in the clinical picture within 24 to 48 hours, although the control group of 23 cases showed the prolonged course usual in dysentery of this severity. Recently, Lyon and his co-workers[12] have reported on their subsequent experience with sulfaguanidine in 267 patients with "bloody flux" (bacillary dysentery). Of these, 8 patients died, all but one before adequate treatment with the drug could be given. In most of the others, the drug proved to be quickly effective in controlling the disease.

A number of other controlled studies on the use of sulfaguanidine in bacillary dysentery have appeared during the past year. Anderson and Cruikshank[13] used the drug in the treatment of 41 adult cases of acute bacillary dysentery with beneficial results, having a series of 55 cases in the same epidemic to serve as controls. Suarez and Morales[14] studied the course of the disease in 30 patients, 17 of which were treated with the drug and 13 symptomatically to serve as controls. The clinical course was considerably shortened in the group receiving the drug.

Most of the cases of dysentery which were encountered in the investigations mentioned above have been of the Flexner type; a few Sonné types were studied. Sulfaguanidine has been used in the British forces in the Middle East in the treatment of severe dysentery of the Shiga type, both acute and persistently chronic cases. Some 371 cases were treated, 135 of the Shiga type. The beneficial effects of sulfaguanidine in Shiga dysentery may be illustrated by the following excerpts from a report[15].

"Clinically, the outstanding effects produced by sulfaguanidine are:

1. The increased feeling of well-being with 24-48 hours of administration, rapid relief of abdominal pain and tenesmus, and decrease or disappearance of abdominal symptoms.

2. A fall in the temperature and pulse rate in uncomplicated cases, often reaching normal in 1-3 days.

3. A remarkable reduction in the number of stools; as a rule within 5-6 days the bowels are not acting more than once or twice daily.

4. Rapid disappearance of blood from the feces; mucus also decreases in quantity but usually takes considerably longer before it finally disappears. This is not surprising since it takes some time for the pathological lesions to heal and the bowel to be restored to normal after the dysentery bacilli have been controlled or eliminated."

"Although no analysis of cases other than Shiga infection is given, cases of dysentery due to Flexner, Schmitz and Sonné infections treated with sulfaguanidine have been restored to health, and rapid healing of the various types of colonic lesion has been observed by the sigmoidoscope. The fatal cases have either received treatment too late or have suffered from some complication such as pneumonia, peritonitis or toxic nephritis established before treatment started."

Hardy, Watt, Peterson and Schlosser[16] have recently carried out an extensive bacteriological study of the effect of sulfaguanidine in *Shigella dysenteriae* infections. Selecting individuals on the basis of positive stool cultures, whether clinical cases or carriers, they found in 68 individuals treated with sulfaguanidine negative cultures after the ninth day in all but one, whereas in an untreated control series of 29 cases, 76 per cent gave positive cultures on the ninth day. They suggest that the use of sulfaguanidine for the treatment of carriers warrants adequate trial.

A survey of the investigations which I have mentioned on the use of sulfaguanidine in bacillary dysentery leave no doubt as to its therapeutic value: its final evaluation in relation to other drugs which have been or may be used in the treatment of this disease must await a much more extensive clinical trial. Less information is available on the use of this drug in other intestinal infections. As far as I know limited trials which have been made of its use in typhoid fever and in chronic ulcerative colitis indicate that it has little or no therapeutic value in these diseases. Stickney et al.[17] used this drug in the treatment of chronic ulcerative colitis but concluded that "the variability in the course of the several forms of chronic ulcerative colitis makes it impossible to state with any degree of certainty that sulfaguanidine was the chief factor responsible for the favorable response obtained by some of the patients." Hall[18] used the drug in 20 patients with proved typhoid fever while a similar number of proved cases in the same hospital at the same time receiving no drug was taken as controls. As judged by this controlled series, sulfaguanidine was of no value in the disease. No data are available as to its use in cholera. Bornstein and Strauss[19] suggest that treatment of intestinal infections with Salmonellas other than the susceptible types may be harmful as the result of a selective action of the drug on the colonic flora allowing the pathogenic organisms to flourish.

Firor and Jonas[20] used sulfaguanidine in the preparation of 12 patients who needed operations upon the colon. They concluded that the formulation of any conclusions as to the value of the drug was not justified from such a small series of observations, but stated their impression was that the drug was a real adjuvant in colonic surgery. Apparently, this early impression of the value of the drug in colonic surgery was modified by subsequent experience[10]. Spink and Wangensteen[21] used the drug in over 20 patients for colonic resection, but found it impossible to draw any conclusion relative to its prophylactic value. It now appears that the use of a sulfonamide locally in the abdominal cavity and systemically at the time of operation may prove more valuable than an attempt to reduce the bacterial flora of the colon before operation. The results which have been reported by Lockwood and Ravdin[22] on the use of sulfanilamide systemically in preventing postoperative peritonitis, while as yet insufficient to warrant final conclusions, are highly suggestive. More recently, they have been using sulfanilamide locally in the abdomen as well as oral or parenteral administration of the drug, but still feel that emphasis belongs on the systemic rather than local treatment[23].

In intestinal diseases of animals, sulfaguanidine may possess some therapeutic value. Encouraging results have been reported in the treatment or prevention of coccidial infections of fowls[24] and of lambs[25], of enteritis in swine[26], and against ulcerative cecitis of rats[27].

It is now well established that in the use of any sulfonamide drug to treat systemic infections, the most efficient dosage schedule is one which maintains a more or less constant blood concentration of drug, day and night, for a sufficient length of time. The same principle of maintained concentration of drug applies to sulfaguanidine, but here the objective is to maintain a saturation of intestinal contents with the drug by a dosage schedule which allows as little absorption of the drug into the blood and tissues as possible. The total amount of this drug absorbed from the intestine depends much more on the time interval between doses than upon the actual size of the dose. One or two large doses per day will produce a much lower maximum blood concentration than the same total daily dose divided into several portions and given at frequent intervals. Moreover, saturation of the intestinal contents as well as the total amount of drug absorbed appears to depend also upon the rate of passage of the contents along the intestinal tract (as judged by the number of stools per day).

An estimate of the amount of drug absorbed from the intestinal tract when repeated doses are being administered can be obtained by measuring the total intake and total urinary output during the whole period of administration or by determining the daily urinary excretion after balance between intake and output has been established (when the blood concentration and daily urinary excretion remain constant with constant dosage). Marshall, Bratton, Edwards and Walker[7] found in one adult an average excretion of 20-25 per cent from a total daily dose of 13 grams. Anderson and Cruickshank[13] found in 3 adults each receiving a total of 26 grams in 4 days a total excretion of 7.5, 8.5, and 13.0 grams or a percentage excretion of 30 to 50 per cent. It is important to note that the total amount of drug absorbed (as judged by the excretion) was exactly the same in the case of the 25 per cent of the 13-gram dose and 50 per cent of the 6.5-gram daily dose. Sulfaguanidine is absorbed to a large extent when very small doses are given, but to a small extent when large doses are given. This allows the administration of enough drug to insure large amounts remaining unabsorbed in the intestinal tract with relatively small amounts reaching the blood and tissues for distribution and excretion.

The dosage of sulfaguanidine originally recommended[7] was as follows: for children, initial does per os. 0.10 gram per kilogram, maintenance dose 0.05 gram per kilogram every four hours until the number of stools per day is four or less, then 0.10 gram per kilogram every eight hours for at least 3 days; in adults, when the drug is given every 8 hours, 0.05 gram is given instead of 0.10 gram per kilogram. On this dosage schedule, the blood concentration of drug in children was usually only 1 to 3 mgm. per cent, and in adults somewhat higher but rarely over 3 mgm. per cent. It is probably that the larger initial dose can be reduced and the following dosage schedule used for all patients, children and adults, receiving the drug: initial dose, 0.05 gram per kilogram, maintenance dose of 0.05 gram per kilogram every 4 hours until number of stools is reduced to 5 or less, then shift to a maintenance dose of 0.05 gram per kilogram every 8 hours, and continue for at least 3 days. In adults, weight can be disregarded and a dose of 3.5-4.0 gram given.

Sulfaguanidine has shown little toxicity in patients compared to the other sulfonamide drugs in general clinical use. When toxic reactions have occurred, these have been of a mild type and have cleared up promptly on stopping the administration of the drug. From reports in the literature on the use of the drug in about 700 patients one can estimate that toxic reactions of all types have not been over 1 to 2 per cent. This estimate includes patients receiving the drug in dosage schedules different from that originally suggested. If one considers only cases in which the drug was given on the suggested dosage schedule, the percentage of toxic reactions is less. Thus, in 48 surgical patients (presumably not having diarrhoea) 4 toxic reactions occurred, but 3 of these were receiving the drug at 4-hour instead of 8-hour intervals[10]. In children receiving the drug for bacillary dysentery or infectious diarrhoea, toxicity has been noticeably absent. Lyon et al.[12] conclude on the basis of the treatment of nearly 300 patients that this drug is safe enough to be used in the home, office, or out-patient dispensary.

The toxic reactions which have been observed with sulfaguanidine are also seen with other sulfonamide drugs. Headache, nausea, skin rashes, fever, conjunctivitis and possibly mild hemolytic anemia and microscopic hematuria have been noted. Since in animals one can produce renal concretions of acetylsulfaguanidine under conditions of reduced urine flow and excessive dosage, it is important to administer adequate amounts of fluid and watch the urinary output when the drug is used.

Although the general impression of clinicians was not favorable as to the therapeutic value of sulfanilamide in bacillary dysentery, at least three papers reporting beneficial results from its use have appeared[28,29,30]. Several reports of an apparently beneficial result from the use of sulfapyridine on small groups of cases of dysentery have appeared: in none of these was there an adequate control series[31,32,33,34]. Sulfathiazole has also been used in the treatment of bacillary dysentery and infantile diarrhoea[35,36,37,38] and excellent therapeutic results have been reported. In two of these studies there were satisfactory controls: alternate patients were treated with sulfathiazole. The data available at present are not sufficient to obtain any idea of the comparative therapeutic efficiency of these three sulfonamide drugs as compared to that of sulfaguanidine. For various reasons, sulfathiazole would seem to be preferable to sulfanilamide or sulfapyridine. As compared to sulfaguanidine, where saturation of the stools with drug is readily obtained, Edwards[39] has shown that even on large doses of sulfathiazole the stools are usually not saturated with drug and in many instances the concentrations of drug in the stools are low or show marked variation from day to day. Granting that sulfathiazole and sulfaguanidine have equal therapeutic effectiveness, the latter drug is preferable from the standpoint of safety. Edwards[39] states that of 281 children receiving sulfathiazole, 9 per cent developed toxic reactions, not including those of a minor nature such as nausea and vomiting. If one contrasts this with a similar sized group of children receiving sulfaguanidine, where toxic reactions are nil or negligible, the superiority of sulfaguanidine is evident. Only if cases of dysentery are encountered which do not respond to this drug, would it seem advisable to use a much more toxic and a more efficient chemotherapeutic agent.

As stated before, sulfaguanidine introduces a new concept in bacterial chemotherapy, namely, that a drug given per os can be quite soluble in the intestinal contents, while at the same time its absorption from the intestine is limited. It is natural to expect that other sulfonamide drugs with properties similar to those of sulfaguanidine will be tried as intestinal chemotherapeutic agents. Preliminary notes on two such drugs have appeared; one, sulfanilylbenzamide[40], which is stated to be somewhat more active *in vitro* on intestinal pathogens than sulfaguanidine and equally active in reducing the coliform bacteria in the feces of mice, and the other N^4-succinylsulfathiazole[41], which is stated to be highly active in reducing the coliform organism in the stools of the dog and man. Owing to the lack of published data, no conclusions can be drawn at present as to the value of these drugs as intestinal chemotherapeutic agents.

In conclusion, one may say that, regardless of the future place of sulfaguanidine in clinical practice, investigations with this compound have opened a new approach to the problem of intestinal chemotherapy.

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The Chronic Diarrheas*

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THE PRACTITIONER faced with a diarrhea of long standing should consider the various etiological possibilities, should analyze the symptoms and the physical signs in an effort to ascertain the true causation.

The diarrhea may be a local manifestation of a diseased colon; or of some more rare pathological process in the small intestine or in the stomach. But it may also originate in the far more distant organs, such as thyroid and pituitary, or in some general disturbance such as a specific allergic agent, or in a general disturbance of the autonomic nervous system.

The history of the cause should elicit certain facts which will differentiate the local intestinal disease from the functional or nervous form. One asks pertinent and well-directed questions: Is blood present grossly in the diarrheal discharges? Are the movements accompanied by abdominal cramps? Is fever present, has there been loss of weight, and particularly, are the symptoms of anemia present? These are the guiding questions grossly to differentiate the local organic from the functional systemic causations.

The physical examination is vital for its possible positive findings of a mass, per abdomen, or by rectal palpation. Rectal examination is of the greatest importance, in itself constituting a whole diagnostic procedure. The digital examination may reveal fistulae, fissures, or ulcerating hemorrhoids; one may, with the naked finger, actually palpate discreet deep ulcers or polyps. The palpating finger on withdrawal may be covered with blood and pus in inflammatory lesions with ulcerations and congestion; one can actually feel the edema and moistness of the mucosa in true pathological processes.

On the other hand, in functional diarrheas the finger is withdrawn dry or covered with slight mucus or normal appearing stool. Simple as is rectal digital palpation, it is a diagnostic procedure all in itself. A neoplastic ulcerating mass or a high Blumer shelf is most significant.

Next in importance is the examination of the stool specimen. The whole stool should be seen. The liquid, watery, bloody stool of ulcerative colitis with its rice, watery, or soapy consistency is characteristic; the semiformed mucus-containing stool of ileitis is very informative. The large bulky stool of sprue, the fatty butter-like stools of pancreatic deficiency, the thick gelatinous stools of so-called mucous colitis with its coagulated, shready forms of mucus, are very characteristic. In every case of diarrhea the warm stool should be examined immediately for parasites and ova. One no longer asks a patient to bring a warm stool; there are too many delays and difficulties involved. One examines the material obtained through the proctoscope, warm and taken directly from the lesion in the mucosa. Here, amoebae are readily recognized, even without warm-stage microscope, and other parasites and ova readily identified.

The sigmoidoscope is no longer an instrument for the use of the specialist alone. It should be employed by any well-trained practitioner who, with experience and frequent use, will readily differentiate the dry glistening mucosa with evident blood vessel tracings of a normal case from the congested, purulent, edematous, bleeding mucosa of a true colitis.

If the local rectal and sigmoidoscopic examinations fail to determine true organic disease of the lower colon, one falls back upon the next diagnostic procedure, namely, the barium enema. A complete radiographic study may be necessary to determine the presence or absence of segmental or regional colitis above the reach of the sigmoidoscope; or of terminal ileitis, a disease which is usually recognized during the routine barium enema by encouraging ileo-cecal reflux during the procedure; or of diverticulitis and particularly neoplasm. If the barium enema is negative, then one must advise and carry out a barium meal; carcinoma of the stomach often creates diarrhea, and lesions of the small bowel, inflammatory and neoplastic, must be recognized by hourly plates if necessary to pick up local lesions at the various depths and involving various loops of jejunum and ileum.

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Presuming that the radiographic studies of stomach, and small and large intestine, are negative, the next routine procedure should be a test-meal, Ewald or fractional, to rule out a gastrogenic diarrhea. It is erroneous to believe that most cases of achylia gastrica suffer with diarrhea; in fact, constipation is the usual concomitant, not diarrhea. But, persistent and severe diarrhea may arise in a true, histamine-proof achylia, and the test-meal is therefore a vital diagnostic procedure.

Finally, a study of the basal metabolism is essential in detecting diarrheas that originate in thyroid over-activity such as may characterize the diarrhea of true Graves' disease, or more rarely may characterize disturbances of the pituitary or of the adrenal glands.

It will be noted that the analysis of a case of chronic diarrhea begins distally and progresses orally by stages of differentiation, for the most common causes of chronic diarrhea are colitis and distal neoplasms. Approximately 95% of cases of colitis involve the distal colon and rectum; most carcinomata of the colon involve the recto-sigmoid angle and the rectal ampulla, so that the distal colonic diseases are first to be excluded.

Non-specific ulcerative colitis constitutes one of the most difficult therapeutic problems in medicine. The acute, toxic, prostrating, febrile form is best handled by purely expectant procedures—non-roughage diet, transfusions and intravenous saline solutions to overcome dehydration. Chemotherapy in the form of sulfaguanidine has proved disappointing. The early use of vitamins is to be deprecated for they are not necessary and disturb appetite rather than act as stimulants.

Local medicinal enemata, as of neutral, acriflavin or of kaolin and aluminum hydroxide may be tried; they may give rapid brilliant therapeutic success or may be dismal failures. Serums and vaccines have been disappointing since no specific form of serotherapy has been successfully devised, to date.

The chronic forms of ulcerative colitis need to be jogged out of their chronicity by non-specific protein therapy. Typhoid vaccine is the most readily and easily available form, and intravenously administered in doses beginning with 25 million organisms, and advancing slowly, every 3 or 4 days, to 150 million, may and often gives brilliant results. Permanent cures do take place, but recurrences, unfortunately, are more common and constitute a grievous strain upon originality and handling the ever-recurring phases of diarrhea and progressive inanition.

The operation of ileostomy is not a cure, is accompanied by a high mortality, and leaves a semi-invalid. It should be avoided in young women, who never recover from the psychic insult to their romantic and sex careers; it should be relegated to adult patients advanced in years and should constitute only a last stand emergency procedure where life itself is desired above invalidism or semi-invalidism.

Ileitis, usually of the terminal type, occurs in all classes of society in all races, but usually in youth, the average age of the sufferer being about 25½ years. Males predominate slightly over females. My personal experience with hundreds, literally hundreds of cases, would place ileitis as much less common than colitis, but actually occurring once for every 15 or 20 cases of non-specific colitis. Any diagnostician or surgeon of large experience who fails to detect ileitis in an extensive practice is remiss in his powers of observation and perception, for cases are universally distributed and are far from infrequent.

The cases of ileitis are characterized by mild diarrhea, not infrequently by constipation alternating with short periods of frequent stools; by the appearance and palpation of a mass in the right lower quadrant or mid-abdomen; by the presence of fistulous fecal tracts to the abdominal wall, to the perineum of peri-rectal spaces. Radiographically, by barium enema or barium meal, the "string-sign" of terminal ileitis is readily recognizable, or the distorted mucosal pattern, the segmental clumpings and the delayed motility of the small intestine, identifies more diffuse ileitis with successive "skip areas" of normal mucosa separated by "skip lesions" that extend orally for some distance. Fever, progressive anemia and loss of weight, and persistent abdominal cramps preceding frequent bowel movements denote the full-blown clinical picture.

Acute ileitis simulates acute appendicitis in all its phases, except that diarrhea and *not* constipation is the rule. Exceptions to this rule occur, but not with any material frequency. Acute ileitis should be searched for wherever the pathological appearance of the appendix even slightly leads one to question that organ as the source of symptoms. Acute ileitis should not be resected or disturbed, for at least half the cases resolve fully and leave no radiographically recognizable picture. In those instances in which the ileitis assumes the chronic form, resection or short-circuiting operations may be performed at later leisure.

Chronic granulomatous ileitis is not a medical problem, for no conservative therapy offers any hope of success. The establishment of the diagnosis is the veritable indication for prompt surgical treatment. Resection is the operation of choice since one hopes to eradicate all the local disease, including all the "skip areas" at one procedure. If fistulous tracts, external or internal, are present, or a large, infected, granulomatous mass exists adhering to neighboring viscera, a short-circuiting operation in the shape of an ileo-transverse colostomy, with transection of the ileum distal to the anastomosis is the operation of choice. Immediate relief, if not cure, results in most all the cases in which resection is attempted, and in over half the cases in which short-circuiting is successfully accomplished. In those cases in which abdominal wall fistulas or perianal fistulas and ulcerations persist, or fever, anemia and loss of weight remain as a progressive feature, a secondary resection of the inflamed area may become necessary at some future date. The mortality of resection is still slightly higher than that of short-circuiting; recurrences occur in about 10% of the cases, due to too great conservatism. resulting in overlooking higher "skip areas." Permanent cure is the usual success attending upon good surgical judgment and technic, and the patient is restored to a one hundred per cent working efficiency, with no expected abbreviation of longevity.

Specific forms of colitis, such as amoebic, should be readily recognized by the finding of motile amoebae histologica in the fresh mucopus withdrawn with the sigmoidoscope. In the presence of active disease, with diarrhea, there is really no excuse for neglecting to find and recognize the active stage of amoebiasis in even the first trial or observation with a microscope. If amoebae are found or suspected, a course of 11 daily injections of emetin hydrochloride. one grain, given intramusculatory, will give immediate and brilliant therapeutic results, particularly if accompanied by the administration of carbasone (0.25 gms.) in capsule form, twice daily, for 10 days. The clinical result is so striking as to constitute a true therapeutic test of the existence of the disease. The course of emetin should be repeated after an interval to assure lasting success.

Bacillary dysentery in acute or chronic form is recognized only by positive bacteriological cultures from fresh stool, rather than by any serum agglutination, since the latter is far from specific. The acute dysentery occurs in epidemics; the chronic form is very rare and identified only with difficulty for the sigmoidoscopic picture differs not at all from that of non-specific ulcerative colitis, and positive cultures are obtained only after several attempts. The new chemotherapy of sulphathiazol, is emminently successful in achieving a prompt cure; the still newer succinic derivatives of sulphaguanidine are reputed to be several times more powerful as intestinal antiseptics and local bacteriostatics.

Above all, carcinoma of the colon, particularly of the rectum and recto-sigmoid, are ever present souces of dread, lest the true diagnosis be overlooked and sorrow and mortification be the sad sequel to a mistaken or neglected diagnosis. Any neoplastic mass that can be reached with the sigmoidoscope can be felt by the finger during bimanual examination. The educated naked finger and the skillful use of the sigmoidoscope must detect carcinoma in every case in which it is present. The error occurs because too much reliance is placed upon radiography, and particularly the barium enema. The practitioner does not realize that radiography of the rectum is most unsatisfactory and frought with error. Even the recognition of defects by x-ray in overlying loops of the sigmoid is often a difficult technical procedure. In the more distal colon, beyond the reach of the sigmoidoscope, the barium enema, not the meal by mouth, is the main source of reliance and will rarely fail to disclose the defect of a neoplasm.

Deep radiotherapy and the insertion of radium into the rectum is satisfactory as a palliative measure in the aged only; in all other cases a prompt and radical resection of the growth, dissection of pelvic lymphnodes by posterior section or by abdominoperineal attack in one stage with a permanent colostomy is the operation of choice. An obstructive resection, of the Rankin or Jones or Lahey type, in the hands of the experienced surgeon, is also a most satisfactory procedure.

In the absence of organic disease of the small or large intestine, do not neglect the basal metabolism, for only so can one readily recognize the diarrhea of hypothyroidism or of pituitary disease.

Sprue, of which today we do not differentiate the non-tropical from the tropical, is recognized by the absence of blood and pus in the discharges, by the characteristic bulky, frothy stool, by the severe anemia often of the hyperchromic type, and by the response to diet and vitamin therapy. The characteristic radiographic picture of segmentation and clumping in the higher loops of jejunum and ileum, as seen in the barium meal, is most enlightening, and is seen only otherwise in diffuse ileojejunitis and in true extensive vitamin deficiencies. Sprue should respond promptly to large doses of crude liver extract, to the administration of large doses of vitamins, particularly the vitamin B complex, nicotinamide, and riboflavin, and to a low-fat, high carbohydrate and high protein diet of any general nature.

Lastly, intestinal allergy is a truly rare form of chronic diarrhea. The skin tests, or scratch or patch tests for intestinal allergy are useless and a waste of time and energy. Only the intelligent observations of the patient, or the rule-of-thumb process of elimination diets can succeed in identifying or curing an allergic diarrhea. Milk and its derivatives are the main offenders; the elimination of milk, cream and butter will most often result in striking benefits if such are the offending allergens. No process of increasing immunity or tolerance by hypodermic injections of specific proteins will ever succeed. Meats, particularly lamb and chicken, are next common offenders as allergic agents; also wheat products and occasionally fish.

If the course of a chronic diarrhea be scientifically ascertained, the cure should readily follow. Only the nervous diarrheas and those obstinate baffling cases of so-called mucous colitis or irritable bowel defy therapeutic attempts. They had best be met and treated by sedatives and opiates or turned over to the psychiatrist or psychoanalyst whose greater patience and perseverance may eventually lead to a result.

To be honest, to be kind—to earn a little and to spend a little less, to make upon the whole a family happier for his presence, to renounce when that shall be necessary and not to be embittered, to keep a few friends but these without capitulation—above all, on the same grim conditions, to keep friends with himself—here is a task for all that a man has fortitude and delicacy.

—Robert Louis Stevenson.

Jefferson Davis, His Diseases and His Doctors*

and

A BIOGRAPHICAL SKETCH OF DR. EWING FOX HOWARD†

by

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BIOGRAPHICAL SKETCH OF DR. EWING FOX HOWARD

EWING FOX HOWARD was born in Vicksburg, Mississippi, May 31, 1874, and died of what was termed angina pectoris June 9, 1933.

His undergraduate collegiate work was done at the University of the South, Sewanee, Tenn., where he graduated with the degree of Bachelor of Science.

He studied medicine at the Medical Department of Tulane University of Louisiana, from which institution he received the degree of M.D. in 1897.

He began the practice of general or internal medicine in Vicksburg at once, after being licensed, and continued in this activity until 1916. He took up the specialty eye, ear, nose and throat, after several years of training for his special work.

He had the advantages of preceptorship under the friend of some who are still in this society, Dr. B. A. Quin, and also the advantage of membership in the Howard and Birchett medical families.

In 1907 he married Miss Fannie Reber of New Orleans.

He was known to the membership of the Mississippi Medical Association as well as any man in it for he served as its secretary for twenty years—from his joining in 1897 until 1917—and he was a regular attendant and faithful worker.

He died in the harness of his society, for he was historian in 1932-33. As a practitioner, he fell at work in 1933.

His tombstone bears the simple legend: "Of Such is the Kingdom of Heaven."

I commend you to read the eloquent eulogy of Ewing Fox Howard spoken by Dr. Matas, his friend, at Biloxi in May, 1941, and published in the MISSISSIPPI DOCTOR for July, 1941[1], and to follow with the tribute paid him by Dr. W. H. Anderson in the same publication in July, 1933[2].

That tribute is expressed in simple words arranged in short sentences and can not be surpassed. We quote from it as follows: "He was thoroughly educated. He possessed the student mind. He worked with dogged determination and with precision. He had the mental endurance to keep going on. He would focus on a subject until he burnt a hole in the contents. He was not a lawyer but he had a fine legal mind. He was an able organizer and he believed in it. He was a man of the deepest convictions. He was not quick to decide but when he did his decisions were like the tap root of a tree and no gentle zephyr could shake them. He was an untiring student. He was thorough in his professional work and doggedly he gave much of his time to organized medicine. His view was not always that of the majority but the majority always respected him and gave him heed."

* * * *

JEFFERSON DAVIS, HIS DISEASES AND HIS DOCTORS

PERIOD 1808 TO 1835 (birth to 27 years of age).

OF JEFFERSON DAVIS' disease history between 1808 and 1835, we know practically nothing. Nor do we know what physicians attended him. Between 1808 and 1811, he lived in a rural community in what is now Todd

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*Given before the Mississippi State Medical Association at Jackson, Mississippi, May, 1942.

†The Ewing Fox Howard oration on medicine for 1942.

County, Kentucky. In 1811 to 1812, he was in the Bayou Teche country in Louisiana. From 1813 to 1824, (5 to 16 years of age) he was in Wilkinson County, Mississippi, about two-thirds of the time. The remainder of the time, he was in school in Springfield, Kentucky, Lexington, Kentucky, and Washington, Mississippi. We know nothing of the physicians who attended him in that period and there is almost no chance that we will ever know materially more than we now do.

PERIOD 1824 TO 1828 (16 to 20 years of age).

He was at West Point Military Academy. A search of official records might show whether any army surgeon was detailed to look after the health of the student body at West Point, and if so, who he was.

PERIOD 1828 TO 1835 (20 to 27 years of age).

He served in the United States Army in Illinois, Minnesota, Wisconsin, Iowa and present Oklahoma. It is possible that a search of the U. S. Army records might reveal the names of army doctors who were detailed to the troops in which he served.

As to his diseases in this period, we must depend largely on deduction. He was the tenth child borne by his mother. Therefore, she had had large experience in bearing and caring for babies.

Nothing in the record shows that any of the ten children had any birth disorders or deformities or any unusual childhood diseases. There was plenty of "pot-licker," collards, fresh meat and other fresh food and probably none of the ten had scurvy, rickets or any other manifestation of vitamin deficiency.

The children of this large family must have been exposed to many forms of childhood contagion[3].

We have Mrs. Davis' statement that he failed to contract measles, scarlet fever, and membranous sore throat, probably diphtheria, when exposed to them in his own family. Every soldier not protected by a previous attack[3] has measles and mumps. Since Jefferson Davis escaped these diseases in his army life, he must have had them in childhood[4].

He was exposed to cholera twice in the army, and more than once he was exposed to yellow fever, and smallpox. The record does not show that he had either of these diseases, in his childhood or later.

Jefferson Davis explained the short stay in Louisiana by this statement: "But as his (Sam'l Davis, his father) children suffered from acclimatization, he sought a higher and healthier district[5]." Whether or not Jefferson was one of the sick children, we do not know.

While at West Point (1824 to 1828) he fell over a cliff and was pretty badly hurt but he soon recovered completely.

His very certain exposures to cholera occurred while he was in the army in 1832-1833.

In this period during one winter in Wisconsin, he had pneumonia. This pneumonia must have been accompanied by, or followed by, pleurisy or there might have been an abscess, for for some reason, the pneumonia resolved slowly. The record shows he was sick several weeks and was very thin and weak thereafter.

PERIOD 1835 TO 1845 (age 27 to 37)

In June, 1835, Jefferson Davis resigned from the U. S. Army, married Sarah Knox Taylor and went to Hurricane Plantation, Davis Island, South Warren County, Mississippi, to raise cotton. General Taylor, and particularly Mrs. Taylor, were very uneasy lest malaria should ruin the health of the daughter. Sarah Knox Taylor Davis wrote her mother several reassuring letters relative to her health and the healthfulness of the region—which letters are in existence.

Nevertheless in September, 1835, both she and Mr. Davis were taken sick with a severe fever. Sarah Knox Taylor Davis died from this fever on Locust Grove Plantation, West Feliciana Parish, La., between Jackson and Bayou Sara on September 15, 1835. Jefferson Davis recovered.

There is considerable disagreement in the evidence as to the diagnosis on two points.

1. Were Mr. and Mrs. Davis taken sick before they left Davis Island?

2. Was the disease yellow fever or malaria?

The first point is of minor importance but it has some value for the light it throws on the second point. The bulk of the evidence indicates that the illness began at Hurricane Plantation. Hoping to be benefited, Mr. and Mrs. Davis went down the river, probably as far as New Orleans, and then came up as far as Bayou Sara where they left the boat and went to the home of Mrs. Smith, Jefferson Davis' sister. The disease was probably malaria and not yellow fever. Mrs. Davis says it was malaria as do at least two-thirds of those who have written on the subject[6].

We are helped in deducing a conclusion from collateral evidence.

1. The illness was too prolonged for yellow fever.
2. They would not have travelled as they did had the disease been known to be yellow fever.
3. The funeral was public and that would not have been the case had the diagnosis been yellow fever.
4. Monette says there was no epidemic of yellow fever in that region in 1835[7].

PERIOD 1835 TO 1845 (age 27 to 37)

Jefferson Davis spent these ten years in the home of his brother, Joseph E. Davis, on Hurricane Plantation, operating nearby Brierfield, and studying. Presumably in that ten-year period, he required some medical service, although there is no record that he did.

The indications are that if he did need medical service, he called on some physician located at Yokena, Warrenton, Selcerton, or Palmyra. These towns were all in south Warren County.

There were good physicians in Vicksburg—our list includes many names—but Vicksburg was too far away and too inaccessible. We shall presently see that in the Mexican War, he was attended by Dr. Birchett, but probably that physician living first at Bovina and later at Vicksburg was too far away to have practiced on Jefferson Davis. On the tax rolls of Warren County, 1835 to 1845, we find a Joseph E. Davis and a Joseph E. Davis, Jr., paying taxes on Clear Creek near Bovina. We do not even know that the Joseph E. Davis who paid taxes on Clear Creek property near Bovina was even Jefferson Davis' brother and it is quite certain that neither Jefferson Davis nor his brother, Joseph, lived at any time near Bovina.

Dr. Benjamin Davis

It has been assumed that in September 1835 Jefferson Davis and his wife, Sarah Knox Taylor Davis, sick with fever at Bayou Sara, La., were attended by Dr. Benjamin Davis, Jefferson Davis' brother. This assumption is erroneous. Dr. Davis died prior to 1835. Relatives have said that the pair were attended by their nephew, Dr. Joseph Davis Smith. This too, is wrong. Dr. Smith did not begin practice until 1835. At this time it is not known who was the attending physician.

Dr. Benjamin Davis was probably the third son and the fifth child of Samuel E. Davis, and Jane Cook Davis. He was born in Georgia. That means he was several years older than Jefferson Davis. He married Aurelia Smith and moved from Wilkinson County, Mississippi, to West Feliciana Parish, Louisiana. He had no children. After his death, his widow married General Eleazor Wheelock Ripley of the U. S. Army and she bore one Ripley child.

The physicians found as having practiced in south Warren in 1835 to 1845 were:

Dr. Hyland, Yokena—best chance of having been the Davis' medical standby.

Dr. Griffing, Dr. Selcer of Selcerton—Doctors Griffing and Selcer were both killed by Dr. T. T. Beall of South Warren, later of Vicksburg.

Dr. Wm. Barnes, B. D. Nailor, Thos. Harper, H. B. Bay, Balfour, LeGrand Capers, Dr. Wm. Gwin, and Hutchinson (10). We have not found record of any physician practicing medicine at Palmyra.

INJURIES IN WASHINGTON IN 1836.

After Jefferson Davis recovered from the severe attack of malaria which had been threatening his life when his wife died, he went to Cuba to recuperate. From Cuba he went to New York and on to Washington where he remained for several weeks. The streets of Washington were unpaved and unlit. One night he fell into a ditch and suffered cuts and bruises about the head. This was a severe injury but it could not have been as severe as Mrs. Davis' account of it indicated.[8]. These injuries were attended to by a physician who at the time was a U. S. Senator from Missouri, Dr. L. F. Linn.

Dr. L. F. Linn.

Dr. L. F. Linn, in 1836, was a U. S. Senator from Missouri. He was born Nov. 5, 1796; studied medicine at Louisville, Kentucky, and at Philadelphia; served in the War of 1812; located at St. Genevieve, Mo., where he practiced medicine. Was appointed U. S. Senator from Missouri to fill a vacancy. Was elected to continue in service in 1836 and 1842. Died in St. Genevieve Oct. 3, 1843 (9).

PERIOD 1846-1847—Mexican War (38 years old)

There is no record of any illness or injury of importance suffered by Jefferson Davis in the Mexican War except the wound to his foot inflicted at the Battle of Buena Vista.

Sometime during the day of the battle of Buena Vista, Col. Davis was shot in the foot below the tuberosities of the tibia and fibula. Pieces of his spear and boot were carried into the wound. When the wound was received, the position of his command was critical, and he remained in the saddle paying no attention to his wound until the end of the day's fighting. When he stopped to have his wound dressed, it was found that there was much blood in his boot and the swelling of his leg and foot was considerable. Mrs. Davis wrote that the danger of lockjaw was averted by keeping the foot in a water bath all night.

Of the after-history she wrote, "He suffered intensely from his wound as indeed he did for five years, and was unable to dispense with crutches for two years. The bone exfoliated and pieces that had been shattered, worked out or were extracted by a surgeon."

Dr. Harry says Mr. Davis did not limp when he knew him. The authorities are agreed that there was no stiffness of the ankle joint nor any other impairment of the foot in after years. However, Mrs. Davis wrote that some of Mr. Davis' nervousness in later life was attributable to the suffering caused by this wound at the time of injury and for months thereafter. In this emergency and in the subsequent illness, Jefferson Davis was cared for by the regimental surgeon, Dr. G. K. Birchett of Vicksburg.

The essayist is of the opinion that Jefferson Davis had a penetrating, rifle ball wound of the foot in which there was a compound comminuted fracture of the os calcis which became infected. This opinion is based partly on deduction. Since there was no stiffness of the joint, the conclusion is that neither the wound nor the infection reached any joint membrane. The os calcis is the only bone in the vicinity which is large enough to suffer a wound followed by infection and exfoliation of pieces of dead bone without involvement of some synovial membrane.

Dr. George Keith Birchett.

George Keith Birchett was the great-grandfather of our associate and friend, Dr. George Birchett of Vicksburg. The present Dr. Birchett gave to the museum of Jefferson Davis Shrine, the surgical set which his great-grandfather used in the treatment of Jefferson Davis. We exhibit this set to you tonight. He also gave the Shrine the surgical instruments used by his grandfather when serving as a surgeon in the Confederate Army. You can see these instruments as well as those used in the Confederate service by visiting the museum of Jefferson Davis Shrine.

George Keith Birchett (the first) was born in Orange County, Virginia, in 1806. He died probably with yellow fever in Vicksburg in 1866. He graduated in medicine in the University of Pennsylvania in 1827 or thereabouts.

He came to Vicksburg in 1830. He bought Mt. Albian Plantation near Bovina on Clear Creek and lived at times there and at times in Vicksburg. He founded the institution which exists now as the Vicksburg State Charity Hospital (12).

Period 1845 to 1861 (except the Mexican War Period) (age 37 to 53)

At the beginning of this era, Jefferson Davis had married and embarked on his political career. He spent nearly all of his time in Washington, but Brierfield on Davis Island was his legal home and there he spent a part of each year. We do not know that he had any illness in this period, for which he or his family was treated in Warren County. Such minor illnesses as called for attention were probably rendered by some of the physicians named as practicing in Wokena or nearby south Warren villages. In that civilization, many physicians of learning and culture lived in villages and on plantations.

Only one of the six Davis children was born in Mississippi and that was the oldest, Samuel E., born in 1853, and also died in 1853. Mrs. Davis, in this confinement, may have been attended by some one of the south Warren physicians, or she may have been attended by the Howell family physician in Natchez.

1851 (age 43 years)

In 1851, while canvassing the state against Foote at Pontotoc, Jefferson Davis was due to speak at Athens Campgrounds, Monroe County, the next day or within a few days, and he wrote Judge Stephen Cocke that illness prevented him from continuing the campaign for the time. Mrs. Davis wrote[13], "The exposure to the sun had its usual effect upon Mr. Davis and he was stricken down with fever which brought on an acute inflammation of the left eye." Discussion of this eye trouble will be postponed until a later paragraph.

When Mr. Davis was taken sick at Pontotoc, he inquired if a Dr. Dozier was not practicing somewhere in the county. He went to the home of this Dr. Dozier and remained there until he was well enough to go home. This is the first information we have as to Jefferson Davis' serious eye trouble.

Dr. Dozier was the grandfather of Judge W. D. Anderson of the present Supreme Court of Mississippi. He had been a fellow student in Transylvania and Jefferson Davis' memory always held clear the boys with whom he had been associated there. He remembered to have heard that his college friend, Dozier, now a physician, was practicing medicine in Pontotoc County. He sought him out at his home a dozen miles in the country as he had sought out Jones in Iowa and other Transylvania friends in other parts of the world.[14]

Jefferson Davis in Mississippi was a strong, healthy man with a good digestion and few disorders.

In Washington, he was changing to a rather weak, nervous man, subject to facial neuralgia and nervousness. Probably he was over-worked and over-worried and the strain was being felt. This subject will be further discussed in later pages.

Three of his six children were born in Washington. In spite of the fact that no major illness of his in this period is on record, except the laryngitis which ended in ulceration of the cornea, he and the family probably had the services of several physicians. Among these were Dr. A. Y. P. Garnett, Dr. Stone, Dr. Miller and Dr. Hayes.

Mrs. C. E. Bolling, Richmond, Virginia, ex-President of the U. D. C., writes: "I learned recently from his granddaughters that Dr. A. Y. P. Garnett, who lived in Washington prior to the Civil War and who came to Richmond when Virginia seceded, was Jefferson Davis' physician in Washington and continued to be after he came to Richmond[15]."

Mrs. Davis wrote, "Our family physician, Dr. Thomas Miller, brought the great specialist, Dr. Hayes, of Philadelphia, to see our poor sufferer[16]."

PERIOD 1861-1865 (53 to 57 years old)

Jefferson Davis' stay in Montgomery was short and we have found no record of a medical history covering it.

He spent nearly four years of great strain in Richmond. Mrs. Davis wrote of Mr. Davis' spells of neuralgia of the head, face and eye, and repeated brief attacks of fever perhaps similar to attacks of cold. He was over-taxed and tired and his body showed that he was well on the way from the robust, full-faced, rosy-cheeked youth of great vitality and strength to the hollow-cheeked, thin, pale, nervous, aging man.

In this period, there is no record of any severe illness which he developed, but his physician, Dr. Garnett, must have come into the household with some frequency. Two of the children, William and Winnie, were born in Richmond, and one, Joe, died during this period. He was killed by a fall from a porch. The children ranged in age from infancy to six years—years in which there are many illnesses that call for physicians' services, although there are but few deaths.

Dr. Thomas Miller.

Thomas Miller was born in Virginia in 1806. He died in Washington, D. C., in 1873 at 67 years of age. He studied medicine in the Medical Department of the University of Pennsylvania from which he graduated in 1827. However, he did not locate in Washington for the practice of medicine until 1835.

He was a born leader and a man with originality as well as force of character. As evidence of his willingness to pioneer, we have the facts that he was one of the founders of the Medical Society of the District of Columbia, that he caused the inauguration of the registration of births and deaths and he established St. Elizabeth's Hospital. As evidence of his leadership, he was president of the Medical Society of the District and president of the local Board of Health.

Dr. Robert King Stone.

Robert King Stone was born in Washington, D. C., in 1822 and died in the same city in 1872. He graduated in medicine from the Medical Department of the University of Louisville in 1849. In 1847, he located for the practice of medicine in Washington, D. C., marrying in the same year. He began teaching by filling the chair of anatomy in the National Medical College in 1848. Soon he became professor of ophthalmology in the same college. After that, he specialized increasingly in diseases of the eye.

Dr. S. C. Busey wrote, "For any reputation for which I may leave behind me for fluency of speech and readiness in debate, I owe to Robert King Stone." He taught me how to express myself when on my feet, saying the secret lay in two principles—first, know what you intend to say, and second, forget yourself. He was a broad-minded, open-hearted, generous and forgiving man." (33, 34, 35, 36).

Jefferson Davis was lucky in that one of his Washington physicians was so proSouthern in his sympathies that he felt it advisable for him to spend the war period in Richmond.

There among his other services for the Confederacy was the care of the health of President Davis and his family.

A. Y. P. Garnett.

A. Y. P. Garnett was born Sept. 19, 1819, and died July 11, 1888. He was the son of Muscoe Garnett; was born on the Rappannock River in Essex County, Virginia. He graduated in medicine from the Medical Department of the University of Pennsylvania in 1841.

On June 13, 1848, he married Mary E. Wise, a daughter of Henry A. Wise, governor of Virginia. He settled in Washington, D. C., where he enjoyed a large practice in the families of men prominent in public life, including the family of Senator Davis. In 1851 he had some service in connection with the U. S. Navy.

He removed from Washington to Richmond in 1861 and returned to Washington in 1865.

In Richmond he was personal physician to Jefferson Davis and served in two military hospitals. Later, he was president of the American Medical Association. He died at Rehabeth Beach, Delaware, of heart disease. Washington sketches of physicians teem with fine references to Dr. Garnett (33,34,35,36).

PRISON PERIOD (age 57 to 61 years)

In May, 1865, Jefferson Davis was placed in Fortress Monroe and held there in close confinement for about one year and then he was in jail in Carroll Hall without much greater liberty for an additional year. For a short period he was in chains.

From May to December, 1865, he was under the medical care of Lt. Col. J. J. Craven, Surgeon, U. S. Army, the author of *The Prison Life of Jefferson Davis*[17]. After 1865, he was under the medical care of Surgeon George E. Cooper. Surgeon Cooper's reports, and also those of Col. Craven, are found in the series of volumes entitled *The War of the Rebellion*, Serial No. 136[18]. During this two-year period, one or the other of these physicians saw Jefferson Davis almost daily and officially reported to the superintendent of the prison or to some other higher officer on the health of the prisoner. Their reports are in substantial agreement. They found no evidence of any organic disease. The patient was emaciated, "little more than skin and bones," skin color poor, skin tone poor, poorly muscled; sometimes handled his feet poorly; some tremor, some tendency to fall or to stagger; poor appetite, poor digestion, very nervous, hypersensitive to light and sound; sometimes had a rapid nervous pulse; had fever occasionally; face would flush; slept poorly; had neuralgia of the face and head nearly every day.

To the honor of our profession, both Drs. Craven and Cooper extended Jefferson Davis every courtesy and did for him every kindly act that they could. Dr. Craven insisted upon having his shackles removed. He discovered that the prisoner had a fair appetite and fair digestion, when he was given appealing foods, properly prepared.

When he found that the presence of, and the noise made by sentinels was too much for the sensitive nerves of the patient, he strove to have re-adjustments made. He got him from poorer quarters to better ones. At last, in December, 1865, he got warmer clothing for the poor, frail man. For these acts of kindness, Dr. Craven was demoted.

Do not fail to read *The Prison Life of Jefferson Davis*. You will learn much about science, political economy, sociology and medicine. You will learn much of Jefferson Davis that you will otherwise miss, and you will close the book determined to be more worthy of your profession.

When Dr. Craven was removed, Jefferson Davis became the patient of Dr. George Cooper, U. S. Army. At first, Dr. Cooper was awed by Dr. Craven's experience. But presently, one finds him rising above this. Soon he, too, was all that a humane physician should be.

In the summer of 1865, the prisoner had an attack of streptococcus infection. We quote the following from Craven's prison days. "Carbuncles and erysipelas in August and September, 1865. A pustule somewhat malignant in character was forming on prisoner's face. Called the same evening, prisoner in a high fever, the swelling of his face spreading to his back and head with indications of latent erysipelas.

"August 16.—Prisoner suffering severely; the erysipelas now showing itself in his nose and forehead.

"August 20.—Mr. Davis suffering great prostration, a cloud of erysipelas covering his whole face and throat.

"August 21.—Erysipelas spreading. Informed Major General Miles. 'I find state prisoner Davis suffering severely from erysipelas in the face and head. Also that he had a small carbuncle on his left thigh.'

"August 25.—Erysipelas subsiding.

"September 1.—Mr. Davis believed in a critical condition. The carbuncle on his thigh much inflamed. The erysipelas which had subsided now reappeared.

"September 3.—Erysipelas again receding and the carbuncle commencing to slough out.

"September 6.—Healthy granulations forming in the carbuncle[17]."

A probable diagnosis of this attack is carbuncle of the thigh, and erysipelas or an erysipelas-like infection of the face and neck.

After Jefferson Davis was released from prison on bail, he spent nearly two years in Canada in the North within easy call of the courts. He regained his health but thereafter he was never robust. There is no record of any severe illness during this period (1867 to 1869) nor of any service by physicians.

Two Disorders. This point is chosen to discuss two of Jefferson Davis' disorders, some mention of which has been made in the sections dealing with other periods.

These are 1) poor indigestion and 2) blindness in one eye.

Poor Digestion. Mrs. Davis reports that Jefferson[19] was naturally indifferent to food. In his eating, he was not "picky or choosey." By reason of training, breeding or natural inclination, he ate moderately of the foods placed before him, having no great likes or dislikes, neither praising nor blaming. He was no epicure and certainly he was no Falstaff. In this prison period, he was just the reverse of his natural self. He was a dyspeptic and no food seemed to appeal to him, or few foods seemed to agree with him. He could not stomach prison food, or any other coarse food.

What is the explanation? It has been said that the change resulted from an amoebic infection contracted in the Mexican War. There is nothing in the record to prove this. He never had dysentery. He had chronic constipation and all other symptoms of amoebic dysentery were missing.

In the present trend of medical opinion, there would be a strong tendency to say that the cause of Jefferson Davis' ill health in these years was gall stones or infected gallbladder, or stomach ulcer. Such a patient today would have his gallbladder or stomach operated on.

About all we can say now is that no diagnosis of gall stones or infected bile ducts or stomach ulcer was made then or can be made now.

The best guess we can make is that the cause in this patient at this time was environmental—physical environment, and mental, spiritual and social causes, inward and environmental.

Dr. Craven's diagnosis was dyspepsia.

What is dyspepsia? Dr. W. J. Mayo was fond of saying that the stomach was the only organ in the abdomen that could talk. So-called dyspepsia, he said when it was not due to ulcer or cancer, was the effect of some dumb organ beyond the stomach, trying to talk.

Blindness. At some time prior to 1850, Jefferson Davis lost the vision in his left eye.

For some years, he had been subject to violent attacks of facial neuralgia. In some of these, he had to remain in a dark room. There might be suspicion that he had migraine. But the description of the symptoms does not fit sick headache and the spells lasted too long for migraine. Some of these spells began with infections of the nose. They were certainly neuralgic in type. In some spells, photophobia was an outstanding symptom.

We have two descriptions of the eye condition, each based on statements by physicians, and each is definite enough to serve as the basis of a diagnosis.

Mrs. Davis wrote: "In the winter of 1858, Mr. Davis, in the midst of the session, caught a very severe cold, which gave him laryngitis; and before it subsided, his left eye became intensely inflamed. About this time, there was a congress of medical men in Washington, and our family physician, Dr. Thomas Miller, brought the great specialist, Dr. Hayes, of Philadelphia, to see our poor sufferer. A procedenture of the pupil had taken place; the eye was in imminent danger of bursting. Dr. Hayes said to me, 'I do not see why this eye has not burst.' "[19]

These statements would indicate that Dr. Hayes, the distinguished eye specialist of Philadelphia, thought that Mr. Davis had glaucoma and that was the cause of the blindness. He does not say what kind of glaucoma it was, or what underlay it. Mrs. Davis wrote: "In 1857, exposure to the sun caused Mr. Davis to have fever which brought on an acute inflammation of the eye and this caused ulceration of the cornea. For three weeks, he was forced to keep in the dark and to refrain from reading and writing[19]."

Talking with Dr. J. J. Craven in Fortress Monroe, May 28, 1865, Jefferson Davis said: "I lost the sight in one eye from leucoma or an ulceration of the cornea. I can see light with this eye, but I can not distinguish objects[17]."

This statement leaves no doubt that Jefferson Davis was blind in his left eye, as the result of corneal ulcer, and that some physician, we know not who, had made that diagnosis. It is entirely possible that he had had both corneal ulcer and secondary glaucoma possibly at the same time, or possibly at different times.

Dr. J. J. Craven.

Dr. J. J. Craven was born in 1823 somewhere north of the Mason and Dixon line, we do not know where. He went into the United States Army at Trenton, New Jersey, as surgeon of the First New Jersey Infantry. This was a three months' volunteer regiment and Dr. Craven was back in private practice in New Jersey by August, 1861. He again volunteered, re-entering the U. S. Army October 16, 1861, at Washington, D. C. In the course of his military duties, he was detailed to serve at Fortress Monroe in 1865, and in consequence of this detail, purely as a matter of service the duty of caring for the health of Jefferson Davis and other prisoners fell to his lot.

In December, 1865, because of alleged undue kindness to the prisoner, Davis, he was virtually released of all active duty. After a month of inaction, he was honorably discharged from the United States Army with the rank of Brevet Lt. Colonel on January 27, 1866. He then retired to Patchogue, Long Island, New York, where he wrote his *Prison Life of Jefferson Davis* and where he afterward practiced medicine until his death. This occurred February 19, 1893, when he was 65 years of age.

When Jefferson Davis in prison needed better food, Mrs. Craven and her daughter, Annie, cooked it for him and sent it to him from their own table. When he needed warmer underwear and an overcoat, Dr. Craven saw that he got what he needed and from outside sources. The overcoat episode was too much for the prevailing spirit of intolerance. For that Christian, medical service, Dr. Craven was relieved from duty.

No medicine that ever came out of a bottle was better for the patient than the clothing and delicacies which Dr. J. J. Craven and his family gave to this poor old prisoner.

Would that it were possible for the physicians of Mississippi and other Southern states to place somewhere a tablet to the memory of this man—he honored medicine (20, 17, 18).

A copy of Craven's *Prison Days of Jefferson Davis* belongs to the library of Jefferson Davis Shrine. It is here for your inspection.

G. E. Cooper.

Dr. George E. Cooper was detailed to take care of the health of Jefferson Davis in prison when Dr. J. J. Craven was relieved of that duty. He was disposed at first to be harsh to the prisoner but in a short time, the record shows that he was contending for the rights of his patient in a way that brought him under some suspicion.

George E. Cooper was born in Pennsylvania and was appointed from that state to medical service in the United States Army. He served from 1847 to 1869. Starting as an assistant surgeon, he served in that capacity during the Mexican War, and until 1848. He was stationed at Fortress Monroe from 1853 to 1861. He was again at Fortress Monroe in December, 1865, and he served there as post surgeon in 1866 and 1867. He was brevetted lieutenant colonel and then made colonel (18,'21).

Dr. J. K. Barnes.

Dr. Barnes' only medical service to Jefferson Davis was as a referee, on reports made by military surgeons. J. K. Barnes was born in Pennsylvania. He was appointed from Pennsylvania to the position of Assistant Surgeon United States Army in 1840. He served in the Mexican and Civil wars. He was made brevet brigadier general while at Army headquarters in Washington. In 1863, he was made major general.

The record shows that several other physicians were detailed to examine and report on the health of the prisoner Davis, but none had any more contact with him than was required for that service.

Dr. Hayes.

He was born in Philadelphia, Pa., July 5, 1796, just twenty years after the promulgation of the Declaration of Independence and as George Washington was preparing to leave the Presidency for private life.

His entire education was obtained at the University of Pennsylvania, from which institution he received the arts degree in 1816 and the medical degree in 1820.

In 1830, he married Miss Sara L. Minnis of Savannah, Ga. Hence the name of his son, I. Minnis Hayes, who founded the *American Journal of the Medical Science.*

As a general practitioner of medicine, Dr. Isaac Hayes was an indifferent success. He decided to try specializing in the eye. He studied in Wills Hospital and Infirmary for diseases of the eye. He wrote a section of Lawrence's *Diseases of Eye;* edited Annot's *Elements of Physics,* Wilson's *American Ornithology and* Hoblyn's *Dictionary of Medical Terms.* With Dr. E. Griffiths, he translated two volumes of *Physiological Medicine.* He wrote on chronic phlegmeasia, and in 1843 he started *Medical News.* He was a frequent guest at the Wistar parties and was on intimate terms with the scientists of the period and with Prince Lucian Bonaparte. His death on April 12, 1879, was attributed to influenza.

Period 1869 to 1871 (age 61 to 63)

During this period, Jefferson Davis lived in several places and engaged in several activities.

His longest period of residence was at Memphis, Tennessee, but he also lived at Brierfield, and possibly for a while in New Orleans, and he travelled abroad. He suffered no illness that is on record during the period. One son, Willie, died of membranous croup (diphtheria) in Memphis. We do not know the names of his physician or physicians during this period.

The Memphis Period—About 1871-1876 (age 63 to 68)

During this period the Jefferson Davis family consisted of a father, mother and four children. The children were in very healthy age periods so far as concerned danger of death, but they had not wholly emerged from the periods of prevalence of certain forms of contagious disease. They were all in school.

Probably neither Mr. Davis nor any member of his family had any great amount of sickness although William Howell, the youngest son, contracted diphtheria and died. Probably the Davis family physicians were doctors Avant and Saunders[37]. No record of the death of this son, William Howell Davis, has been found in Memphis.

Dr. B. W. Avant.

Dr. B. W. Avant was born in Greenville, Va., May 19, 1812. He was educated at LaGrange, Ala. He began the study of medicine at Murfreesboro, Tenn., in 1830 and graduated at Transylvania in 1835. In that year, he married Miss Lytle of Murfreesboro. He was a surgeon in the Confederate Army and upon its close, he moved to Memphis and joined with his friend of LaGrange days to form the firm of Avant and Saunders. He taught medicine and surgery, first one and then the other. Death from yellow fever occurred Sept. 12, 1878.

Dr. D. D. Saunders.

Born Feb. 26, 1835, near Courtland, Lawrence County, Alabama, he was educated at LaGrange (Ala.) College graduating in 1852. He studied medicine with Dr. J. C. Nott, the proponent of the mosquito theory. This was in Mobile. Having graduated in medicine at the University of Pennsylvania and having studied in New York, he located in Memphis in 1859. He served as a surgeon in the Confederate Army, after which he formed a partnership with Dr. B. W. Avant in Memphis. His wife was Miss M. Wheatly.

He was a professor in the Memphis Hospital Medical College. His death took place in 1887.

Period 1877 to 1889 (age 69 to 81)

With the exception of one experience in 1875 and also with the exception of the last illness in November and December, 1889, there were no illnesses during this period.

During this period, Jefferson Davis remained quietly at Beauvoir writing, receiving visitors, and occasionally going somewhere to make a speech.

In October, 1878, his son, Jefferson, Jr., died with yellow fever at Buntyn Station near Memphis. He did not go to see his son when he was sick nor did he attend the funeral. These facts indicate that he was not a yellow fever immune, although his age and infirmities and the difficulties imposed by that appalling epidemic must be considered as causes for his staying away from Memphis.

His principal occupation at Beauvoir was writing, although he spent some of his time growing grapes, figs and oranges. Cullum's *Register* of West Point Military Academy graduates gives his occupation as "farming."[22] He had many visitors and he occasionally went somewhere to give an address. All in all, in this period his surroundings and meter of life were conducive to good health and long life.

During most of the period, he was attended, when a physician was needed, by Dr. J. J. Harry, of Handsboro. Another neighbor, Dr. Hollingsworth, called to see him socially from time to time. They discussed things and exchanged books but we have no evidence that Dr. Hollingsworth rendered any medical service.

Dr. Harry[23] says that he, then a young doctor, was somewhat over-awed by having the ex-President as a patient. He did not consider that Jefferson Davis had any organic trouble. Every little while, he would have an attack of slight fever and neuralgia. He was a chronic dyspeptic with a mild constipated habit. Dr. Harry thought he had a bilious temperament with a tendency to develop fever readily. Seldom did he consider the attacks due to malaria. He thought they were the result of the patient's poor digestion and sluggish liver. He had a chronic cough, but it was not bad, and he did not prescribe for it.

Very early in his care of Jefferson Davis, he found that quinine did not help him any. Therefore, he rarely gave him any. The remedy which he found most helpful was a prescription containing one-fourth grain of Dover's powders, two grains of calomel and two grains of soda. This generally relieved him within 24 hours. On one occasion, he had a spell that was somewhat more obstinate than the usual attack. In addition to the other symptoms, there was some jaundice. The Dover's powder-calomel-soda prescription had not worked. A consultation with a New Orleans physician was suggested. Dr. Harry was willing and when asked to suggest a consultant, he recommended Dr. W. G. Austin. He had served wtih Dr. Austin in a yellow fever epidemic in Ocean Springs and he had confidence in him.

Dr. Austin came over from New Orleans and examined his distinguished patient. He thought the attack was malarial; there was slight jaundice, and the patient should have five grains of quinine at regular intervals until he was rather heavily quininized. Dr. Harry did not agree but he was a young country doctor, and Dr. Austin was more experienced. Jefferson Davis wanted to follow Dr. Harry. They compromised by agreeing that the patient would take one five-grain dose of quinine. Dr. Harry would take Dr. Austin to town to the train and then he would come back to Beauvoir to see how the quinine was serving. When he got back, Mr. Davis was very nervous and restless and was perspiring profusely. The quinine was discontinued. Another dose of Dover's powders-calomel-soda was given and the patient was much improved the next day. Dr. Harry thought the basis of Jefferson Davis' attacks was mental plus a digestive disorder. There was not much scar in the eyeball and he has no recollection of what was the trouble with the eye.

The probability is that Jefferson Davis rarely suffered from malaria. He probably took quinine many times when that drug was not indicated. Those frequent mild spells of fever and pain were probably due to infections, but not malarial infections.

DISCUSSION OF TWO CONDITIONS

Very briefly let us mention rather than discuss two other matters that concern physicians although it is not on record that any physician to Jefferson Davis gave them any thought.

The first is the change in Jefferson Davis' face as age and the experiences of life wrought them.

The second, the change in his mental type.

Mrs. Davis[19] thus describes her husband's physical appearance and especially his facial expression:

"Lt. Davis had, at this time, no beard or so little as to be scarcely perceptible and his smooth face, fresh color, and gay laugh gave the impression of a boy of nineteen."

In the museum of the Jefferson Davis Shrine, you will find a series of pictures of Jefferson Davis at different ages. The first in the series is a picture of Lt. Davis, United States Army, age about twenty-three. He was then a robust young man with pink skin and full cheeks. The pictures show that his growing old was marked most notably by a shrinking of the cheeks. Presently he was hollow-cheeked.

The cranium of man matures speedily and never thereafter changes much in size or shape. On the other hand, the structures of the face undergo constant change from the cradle to the grave. Most subject to change is the nose. Changes in the cheeks especially of the type and degree noted in the case of Jefferson Davis are unusual at least prior to the drying out and shrinking of senility.

Jefferson Davis, mentally prior to 1835, was a rollicking, fun-loving prank-playing convivial, not overly studious boy, and man preparing for life as a soldier.

The same man, subsequent to 1835, was of a different mental type. He was a studious, solitary crowd-shunning student of statecraft and constitutional law. He was not a mixer nor were there any of the qualities of a playboy. This change not only in objectives but also in mental type is worthy of further study.

MACON, GEORGIA, INCIDENT (about 1884) (age about 76). While on a visit to Macon, Georgia, Mr. Davis had some sort of a breakdown, which Mrs. Davis wrote of as follows: "He was stricken with heart failure. After days of suffering, and imminent danger, Dr. H. McHatton, his able physician, ordered him back to Beauvoir and enjoined quiet upon him for the future."

We hope that the diagnosis "heart failure" was not made by Dr. McHatton.

That Jefferson Davis pushed himself beyond his physical and mental capacity, drove beyond his endurance and had some sort of "failure" is no doubt true. But he did not have heart failure. Heart failure is loosely used to indicate myocardial degeneration, failure of compensation, dilatation, malignant hypertension or some form of heart block.

Jefferson Davis lived more than five years after this diagnosis was made. He never developed oedema of the feet or anasarca. or dyspnea or any form of heart block. Neither Dr. Harry nor the physicians who attended Jefferson Davis in his last illness noted any trouble with his heart or any heart symptoms that could be tied in with a history of "heart failure" in 1884.

When are we justified in making a patient who has some kind of a "failure" without progressive organic disease, change his life from one of usefulness or pleasure, to one of uselessness or apprehension? Even if we are certain there is an organic heart disease which we might call heart failure should we not study the progress long and carefully before we have a patient buy a year or two of life at the price of loss of usefulness or pleasure?

Dr. H. McHatton.

About all that we have been able to learn about Dr. McHatton is that he was a regular physician in Macon, Georgia, in 1884, and that he graduated from Bellevue Hospital Medical College in 1881. From this, we guess that he was born between 1855 and 1861. He was not a Confederate veteran nor an old acquaintance of Jefferson Davis.—*Polk's Medical Directory*, first edition.

In this twelve-year period, Jefferson Davis was living quietly at Beauvoir. Occasionally he would go away to give an address or to attend some meeting. Probably once a year, he would go into Warren County, Mississippi, and Tensas Parish, Louisiana, to settle with the hands and to make contracts for the next year with the plantation labor.

He was now a feeble old man, but he was able to write books and magazine articles, to greet callers and friends and to meet the duties and responsibilities demanded of him.

He had periodic spells for which he consulted Dr. J. J. Harry, of Handsboro. Dr. Harry treated him for his facial neuralgia and the occasional spells of fever, maybe for constipation, and occasional spells of dyspepsia and for symptoms as they arose. He was proud that Jefferson Davis honored him with his confidence. He admits that he was awed by the prominence of his patient and in consequence, he was glad to have consultations whenever they were proposed. Whenever a consultant proposed something that he did not think would work out, he, Dr. Harry, was accustomed to letting the consultant's opinion stand until it was proved incorrect.

He thought Mr. Davis' attacks were malarial but he also thought that in his case, quinine made matters worse.

Dr. Harry handled successfully his minor ills, protected him against nervousness due to quinine, and kept him in moderate comfort. He never carried him through a severe illness. While he thought he had some malaria, he minimized the importance of that infection in his case. He did not find a cause for his facial neuralgias. He did not get back of the neuralgia in the search for vitamin deficiency or back of the dyspepsia. For those adventures in diagnosis, the curtain had not risen.

Dr. J. J. Harry.

Dr. J. J. Harry is living at Handsboro, Miss.

He was born near Garlandsville, Jasper County, Miss., May 18, 1854, his father being a farmer. He went to the State University at Ovford for two years, and then finding that the family resources were being overtaxed, he switched to medicine. He was graduated in medicine from the University of Louisiana, now Tulane, in 1878, and then located in Ocean Springs. He saw service there in the yellow fever epidemic of 1878. This experience qualified him for membership on, and president of, the Gulf Coast Health Board—largely a wall against yellow fever for Harrison, Hancock and Jackson counties. In this position he had many experiences, some serious and some amusing.

There is room for only one of these. Once they had some suspicious cases which Dr. Murray, yellow fever expert assigned to Florida, reported to the surgeon general were an ephemeral fever rather than yellow fever. When the surgeon general replied asking "what was an ephemeral fever?", Dr. Murray telegraphed back, "Damfino."

In 1880, Dr. Harry married Miss Lienhard and moved to Handsboro.

In the latest panic, 1929, Dr. Harry lost more money than any doctor is supposed to have. It made him sick and he went to New Orleans to consult Drs. Hume and Vickery at Touro.

One day the doctors spent five hours trying to find something wrong. Their conclusion was that Dr. Harry's only disease was depletion of the pocket book. Their prescription was diversion and play. "But," said Dr. Harry, "I have never done anything but work and I do not know how to play." Let me see. Can I fox hunt?" "Every day," the doctor replied. He got a pack of hounds and he commenced to take his medicine. He is not well—that money disease is hard to cure—but he is taking his medicine regularly and feels certain he will get well, if he lives long enough. He is only eighty-eight years old, and he has a good pack of hounds and there are plenty of foxes around Popp's Ferry; the prognosis is good.

Dr. W. G. Austin.

So far as is known, Dr. W. G. Austin rendered medical service to Jefferson Davis only once. He was somewhat in disfavor with Mr. Davis thereafter because of the large doses of quinine which he gave his patient on that occasion.

W. G. Austin was born in Somerset County, Maryland, in 1814 and died in New Orleans June 15, 1894 He was the son of Dr. John Austin of London County, Virginia. He received his preliminary education at Kenyon College, Ohio, and his medical education at Baltimore College of Medicine and Surgery, graduating in 1836. In that year, he located in Yazoo City, Miss. In 1839, he married Miss Porter of Mississippi and moved to Bayou Sara, La. Some years later, he moved to New Orleans. In 1862, he was president of the State Board of Health and superintendent of Charity Hospital. After that, he served in the Confederate Army. In 1877, he was again on the State Board of Health and in 1879, he was acting president. After that date, he was connected with the yellow fever quarantine and was active in various yellow fever epidemics.

He was long regarded as one of our best yellow fever experts and he was conspicuous in all epidemics(20).

1889—Last Illness (age 81 years and six months)

Jefferson Davis may have had a little chronic cough when he went from Beauvoir to Brierfield the latter part of November, 1889. In these years, he generally had a mild cough which caused no one any worry. He landed from the boat rather late at night. He always had a decided conviction that many human diseases were due to poisonous substances in the air and he was especially apprehensive about exposure to night air. He thought such exposure caused malaria and resulted in other diseases. He contracted a cold and this resulted in a cough. In a few days, he was sick enough to cause some friends to place him on a river boat that he might be cared for in New Orleans, and notified his family. Dr. Stanford E. Chaille was called in to give medical care to the sick old man and he arranged to have Dr. C. J. Bickham in daily consultation.

Mrs. Davis' statement of the last illness:[24] "He arrived at the landing (near Brierfield) late at night but had been attacked on the boat (going up the river) with something which now appears to have been grippe and was too ill to get off the boat, but went on to Vicksburg and returned the next day. He arrived again at night, and drove several miles home through the malarial atmosphere. After a few days they started to New Orleans with the sick man by boat. Two physicians whom we consulted at Bayou Sara, declared he had acute bronchitis complicated with grave malarial trouble."

Dr. Chaille's statement:[24] "I was the family physician of Mr. Davis for several years. He had chronic bronchitis and chronic indigestion. I was in attendance during the last twenty days of his fatal illness. The cause of death was chronic bronchitis coupled with malaria fever and old age. Thursday, when his digestion broke down, I gave up all hope."

Dr. C. J. Bickham's statement:[24] "Acute bronchitis, age, undernourishment and suffering probably from malaria. He never rallied after being seized with the congestive chill which was probably easily brought on in consequence of the malaria in the system."

They referred to a "congestive chill" followed by hours of coma, terminating in death.

In that day, it was the custom to call certain conditions congestive chill. We might try to split the conditions lumped together as congestive chill into a half dozen states, some of which would be designated hypostatic pneumonia, passive congestion of the lungs, dehydration, coma. In that day, most of these congestive chills were regarded as of malarial origin. Dr. Chaille was quite certain that the complication in Jefferson Davis' case was malaria. Dr. Bickham was far less certain about it.

This frail old man had an acute bronchitis and his lungs filled up as the lungs of an old person are so prone to do. It is not probable that he had malaria. In fact, probably very few of the many spells which he had after 1835, and which were called malarial were due to that disease.

One of the great pandemics of influenza prevailed in 1890 and 1891. The trend of medical opinion now is toward the theory that the infective colds of a pre-pandemic period of influenza, build up into the substratum of a world epidemic form of the disease. Is it not likely that the pandemic of 1890-91 was brewing in December, 1889? And is it not possible that Jefferson Davis was one of the earlier victims? That pandemic was especially hard on old persons. A little later, I saw influenza kill five of the older professors in Rush Medical College in less than five months.

Your essayist is of the opinion that Jefferson Davis died from pandemic influenza, complicated by senility and some chronic bronchitis.

The pandemic of 1890-91 was just beginning to build up from an epidemic in December, 1889. In 1890, it was a pandemic. The feeble old man, worn out and suffering from a mild chronic bronchitis, was just in line for that pandemic.

Stanford E. Chaille.

This audience embraces many people who knew Dr. Chaille. So impressive was he in manner and speech that no one who was exposed to Chaille ever forgot him.

Dr. Chaille was born July 9, 1830, in Natchez and was of Huguenot stock. His immediate forbears went to Natchez from Maryland, although he had many kinsmen in New England. He graduated at Harvard with A.B. in 1857 and M.A. in 1853. His father having died early, he was taken to New England and there received his basic education, but he returned South to graduate in medicine from the University of Louisiana in March, 1853. He entered the Confederate Army as a private in 1861, but in 1852, he was acting surgeon general of Louisiana. He served as an interne at Charity Hospital and afterwards was resident physician of the United States Marine Hospital. His first teaching position in the University of Louisiana was in the departments of obstetrics and anatomy but you and I remember him in Tulane as Professor of Physiology and Dean.

His family consisted of a wife and daughter. At least one of his grandsons now ornaments the medical profession.

Dr. Matas wrote of Dr. Chaille, "To him more than any other of my teachers next to my parents, I owe the greatest inspiration of my professional life." (27).

Whether at table or informal conference with official delegates, his remarks and observations were keen pointed and pithy. They immediately gave him precedence and commanded the most respectful attention." With this, every student who listened to Chaille teach physiology will agree.

Dr. Chaille was often on boards of health and few public health investigating commissions in his day failed to number Chaille as a member.

He could be pointed and eloquent in fields other than physiology. In welcoming the ex-Confederate Surgeons to New Orleans ni 1903, he spoke: "In those woeful days, it seemed to Confederate patriots that hell had disgorged all its friends to devastate the South and that Satan had at last vanquished God. Then the torturing irons of humiliation seared your souls and then the solid South was born. "Change the words to fit but retain the style and force and you have Chaille teaching physiology." (28)

Dr. C. J. Bickham.

Charles Jasper Bickham was born at Covington, Southwestern University of Texas in 1854 and that of M.D. from the Medical Department of the University of Louisiana in 1856. He served as house surgeon under the great surgeon, Warren Stone. Thus, is explained the fact that Dr. C. J. Bickham's surgeon—and author—son bore the name Warren Stone Bickham. Dr. C. J. Bickham began the independent practice of medicine at Shreveport, La. In 1867, he became connected with the Medical Department of Louisiana and he retained some connection with this institution and its successor, Tulane University, until 1896. Dr. Bickham was kind, gentle and considerate. He built up one of the largest clienteles in New Orleans and did a large consulting business. He died February 14, 1898, and was buried at Sewanee, Tenn. (29).

Mrs. Davis wrote: "Two physicians[24] whom we consulted at Bayou Sara declared that he had acute bronchitis complicated with grave malarial trouble."

Who could the physicians have been who were practicing medicine between Bayou Sara and Jackson, Louisiana, November, 1889, and were close enough to the Davis family to command their confidence?

The best we can do is to guess who these two physicians were. Among the physicians in the region in 1889 whose names have been supplied us are: Dr. Smith, Dr. James Leake, Dr. A. A. Carruth, Dr. James Kilburne, Dr. R. G. Sterling, Dr. Barrows. It seems to be probable that the two physicians were Dr. Kilburne and Dr. Leake, although there is almost no basis for the guess.

Dr. S. A. Cartwright.

The writer hoped to find that one or both of two eminent Natchez doctors of the period had attended Jefferson Davis. Of these J. W. Monette was available but no mention of him as a Davis doctor has been found.

The only connection with the other, Dr. S. A. Cartwright[32], is roundabout and impersonal.

Across the river from Brierfield in Tensas Parish were two plantations which in 1848 and 1849 were owned by S. W. Dorsey, but which Jefferson Davis later owned. As the crow flies, it was less than ten miles from Brierfield to these plantations Last Retreat and Elkridge. In 1848 and 1849, there was a severe epidemic of cholera up and down the lower Mississippi River. It reached Last Retreat and Elkridge.

In 1849, Dr. S. A. Cartwright, of Natchez, wrote an article on the treatment of cholera[31]. A part of this article was a booklet of instructions to plantation owners remote from physicians. This gave a prescription for cholera. In the library of Jefferson Davis Shrine are two plantation records of Elkridge and Last Retreat for 1848 and 1849. In one of these records the Cartwright prescription for cholera is given.

JEFFERSON DAVIS AS AN AMATEUR DOCTOR

This discussion is brought to a close by a quotation as to Jefferson Davis' qualifications to practice medicine.

Craven relates several conversations with Jefferson Davis on medical subjects. On one occasion, President Davis told Dr. Cravens about salicylic acid and salicylates and willow tea and other substitutes for quinine and what the people of the South did for medicines when quinine and other drugs were made contraband of war.

On another occasion, Dr. Craven[17], wondering at Mr. Davis' knowledge of medicine, asked him how it was that he knew so much on the subject. Davis replied that in the days of slavery, the plantation operators and slave owners had to practice medicine on their slaves because in the new country there were but few doctors.

President Davis gave another illustration of his medical qualifications when on December 9, 1875, he wrote to General R. H. Chilton, "Having been for many years a sufferer by your present tormentor neuralgia, let me suggest to you to diminish your office work, increase your outdoor exercise and eat at regular hours. Like many quack prescriptions, this may be recommended as not injurious if not beneficial."

Jefferson Davis, giving advice from the doctor's side of the table, gave as good advice as was possible in those pre-vitamin, pre-focal infection days. Jefferson Davis, sitting on the patient's side of the table, did not heed the advice.

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The Future of Medicine in Selective Service*

MAJOR ROBERT BIER
Jackson, Mississippi

Major Long, Mr. President, Members of Mississippi State Medical Society:

It is needless for me to say that I am glad to be here with you. It was impossible for Colonel Rowntree to be with you because of a prior commitment, made some months ago, to speak at several meetings in Texas.

I know that your disappointment is keen. Your disappointment no doubt is comparable to that of the colored folk in a certain Southern community at one of their strawberry festivals. In this community it was the custom once a year for the colored people to pay 15 cents and be given all the strawberries that they wanted to eat along with cake. In this particular year, after the funds had been collected, the committee in charge found that strawberries were very expensive and could not possibly be supplied. Instead of calling off the festival, they permitted all to come who paid the price, but at each and every place was a written notice, "This year because of the high price of strawberries, prunes will be served instead."

National Headquarters seizes every opportunity to express to the medical profession its appreciation of the work that is being done by the physicians working under the Selective Service System. The medical function of Selective Service is one of the most difficult and important tasks that we have to perform and it is only through the fullest coöperation of the physicians and dentists of this country that this gigantic effort is successful. I also wish to take this opportunity to call to your attention the fine work that is being done in your state by your state medical officer, Major Lawrence W. Long. His work in the medical function of Selective Service has been outstanding and I am sure that the success of the Selective Service System in this state is due in no small amount to his ability, energy and personality. It can be truthfully said that there have been no major difficulties in the medical function of this state and we consider Major Long as among our best state medical officers.

In selecting a paper for presentation before your society, careful consideration was given to a suitable discussion that was of interest to the medical profession at this time, especially those of you who are serving in Selective Service. There have been several major and minor changes in the medical function of Selective Service which have affected all of you. In addition, it is only reasonable for you to wonder, "What are the plans for the future?"

Because of the size of the task, and for several other reasons which I shall enumerate, it was decided to change the method of examination in Selective Service. It was felt by both Selective Service and the Army that in the present national crisis, it was unwise to use the time of civilian physicians in making a very careful physical examination which must, of necessity, be duplicated by the medical officers of the armed forces. The President, in his conference of October 9, 1941, specified that the Selective Service physician should continue to perform at least a minimum examination. It also became evident, since war was declared, that instead of a limited period of training the present program of procurement of manpower will continue for the duration of the war. For these reasons, all things considered, it was decided not to ask the physicians of the country to continue the complete dual examination. The second reason for this change was the fact that there was administration difficulty with the dual examination and there seemed to be duplication of effort and differences of professional opinion which, in many cases, were misunderstood by the public. In fact, there were some people who erroneously believed that the physicians of Selective Service and the Medical Department of the Army were pitted against each other in the examination of registrants. Of course, no one knows better than you the fallacy of this, but in spite of all of the efforts of Selective Service to dispel the idea, it has persisted. A third reason for the present plan of examination was that since the Army must make the final determination on whether or not they would accept a man for service, it was decided that all the registrants except those who were obviously unfit, should be sent up to the Army for a final determination of fitness. A fourth reason was to send up registrants with certain defects so that the Army could state whether or not the man's condition was correctible and subsequent to the correction of these defects by Selective Service under the rehabilitation program, he would be accepted by the armed forces.

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*Read before the Mississippi Medical Association, Jackson, Miss., May 13, 1942.

The present system of examination in Selective Service has been called by many a "screening examination." National Headquarters does not look with favor upon this term but prefers instead "inspection examination" or "preliminary examination." It should be mentioned here that every effort should be made to inform the public, and especially the registrant, that this examination is only a preliminary one. The local board physician should take particular pains to impress this fact upon each and every registrant he examines. Several states have issued to each registrant, prior to examination, a printed slip expanding the function and scope of the Selective Service examination with suggestions for their information. There has been some opposition to this method of examination on the grounds that it is beneath the dignity of a well-trained physician. On the contrary, it presents a challenge to the diagnostic acumen of the medical profession. As you well know, physical examination consists of inspection, palpation, auscultation and percussion; of these four, inspection is at times the most important. Witness, for example, the diagnostic acumen of the medical inspector at an immigration station, whose job it is to reject any person who is physically unfit to be admitted to this country. This inspection is made in a very short time with the person fully clothed, and it includes not only men, but women and children as well. It is hardly necessary for me to call to your attention the many diseases and conditions which may be diagnosed or at least suspected from this inspection examination, and we ask each of you to give every examination the dignity and skill which is its due. This examination procedure was studied with the utmost attention and every word of the regulations concerning it was selected with care. It was made mandatory to examine the registrant nude because a careful study of the rejection rate between Selective Service and the Army disclosed that one of the chief causes of this difference was the failure of Selective Service physicians to examine the man without his clothes. This precaution would have saved Selective Service from the embarrassing situation of presenting a man with a wooden leg to the induction station in one of our large cities.

Selective Service has directed that all social and health information that can be obtained locally be gathered and forwarded with the registrant for the benefit of the examiner at the Army examining and induction station. This too, if carried out thoroughly, can be of inestimable value. In the old system of examination, men were rejected for neuropsychiatric conditions by the local examining physicians. Under the new system, they can only reject when there is a definite history of commitment for psychosis or where there is professional knowledge of idiocy, imbecility, epilepsy, or chronic invalidism. Psychiatrists were not generally available to the local examining boards in the old system. Under this new system, the War Department has provided for an increased number of psychiatrists at the Army examining stations. It is certainly a safer system when Selective Service will gather all sociological data possible and submit this with the registrant to a psychiatrist charged with the responsibility of final rejection or acceptance.

It is to be remembered that we are not calling these men insane or implying that they are absolutely psychotic. They are, in most cases, only unsuitable for military service because of the difficulty in making the adjustments incident to military life and duties. These men, in all probability, are making satisfactory adjustments in their present mode of living and will continue to do so if they are left in their present occupations and social environments. If taken into military service, they may become a source of annoyance and trouble which far outweighs their usefulness, or they may develop a definite mental breakdown or psychosis. They then become charges of the Government for the rest of their lives, with all that it implies. You are all familiar, no doubt, with the figures of the Veteran's Administration which has estimated that each mental case accepted into the Army has cost the Government from twenty to thirty thousand dollars per man maintenance for the rest of his life. Within the last week, information has come from the Veteran's Administration that out of 1178 men accepted by the Veteran's Administration for medical care, 538 were psychiatric cases. Of all men discharged from the Army for unfitness, 27 per cent have been discharged because of nervous or mental disabilities. Therefore, we cannot impress upon you too strongly the need for your help in this problem. It is only by securing an adequate social history upon these registrants that an insight into their true mental make-up can be ascertained. It is very important that the information concerning a registrant's mental condition be sent to the Examining Induction Station for their use.

In my personal contact with psychiatrists on the Army examining teams, all of them, without exception, stressed the desire and need for more complete histories on registrants sent to them for examining and selection. Since it is imperative that unsuitable registrants, from a social and psychological standpoint, be kept out of the Army, every effort must be made by the examining physician to ferret out any history of maladjustment, bad family history or poor school record as mentioned above. In order that this information may be obtained on as many individuals as possible, Selective Service must take advantage of all available histories of mental disease or disorder. In some states, especially in the East, there are kept at some central bureau case histories or information on persons who are subnormal mentally, have been confined in institutions and treated for mental disease or other social maladjustment. Selective Service must seek a method whereby these records may be made available to the local boards. The more completely these records are kept, the easier it will be for Selective Service to determine the suitability of registrants for service. In addition to information concerning mental illness, a few states also have available at the same source, information as to police record and educational deficiencies. If such a central file could be kept in every state, it would not only serve Selective Service now, but would provide a source of important information for many branches of the Government, both federal and local.

From an analysis of the title of this paper, "The Future of Medicine in Selective Service," it would appear that I have placed myself in the position of a soothsayer, a crystal gazer, or someone gifted with the power of seeing into the future. This is not the case. I have taken this part of the subject so that together we may look into the future and try to plan our work accordingly. The present plan of an inspection or minimum examination and a final type examination by the Army seems to be working very well, with a few exceptions. It is reasonable to expect this plan to continue unless some unforeseen circumstances make change necessary.

The future I refer to is the place of the Medical Advisory Board in our present system of examination and the function of both the Medical Advisory Board and the examining physicians of the local board in the plan of physical rehabilitation of registrants.

It is strongly urged by Selective Service that the Medical Advisory Boards be kept intact. These boards furnish a consultation and advisory service to Selective Service that is most valuable. Selective Service has abandoned the system of using Medical Advisory Boards as consultants for the local examining physicians. The local examining physician, when in doubt, should send the case to the Army examining station for determination. While the Medical Advisory Board is not being requested to do this particular service any more, it is being kept intact and we visualize for it a service not so luminous but more important than that which is has performed in the past.

At the present time, the chief need of the Medical Advisory Board is to review the cases of registrants who are rejected at the Army examining and induction stations when there is some doubt as to whether or not the registrant has been erroneously rejected. In these cases, the registrant should be referred to the appropriate member or members of the Medical Advisory Board for a complete examination and study to determine his exact physical status. Should the Medical Advisory Board find the registrant has been incorrectly rejected because of unsubstantiated history of illness or defect or through lack of proper and complete examination by the Army physicians, the registrant will be returned to the Army. A statement should be sent with him from the local board, setting forth all the circumstances in the case including a full report by the Medical Advisory Board.

To illustrate the importance of the new use of the Medical Advisory Board, there was submitted to National Headquarters a report from one of the states in which an analysis was made of a number of registrants rejected by the Army examining station. There were

110 men rejected; 94 of these men were studied and classified by the Medical Advisory Board. Of the 94 men studied, 69 were placed in Class I-A. Of the 69 men placed in Class I-A, 33 have been sent to the Army, where 27 of them have been accepted. The balance of the I-A's in this group have not yet been returned to the Army but the first figures are very significant, because they show that in the hurry of the Army examination many cases are erroneously rejected. The function of the Medical Advisory Board can only be initiated by the local board. The Medical Advisory Board, as such, will not be used as a consultation service by the Army Examining and Induction Board. In several instances, it has been found that when the Army Examining and Induction Stations were unable to make a diagnosis or determine the exact physical condition of the registrant, they would send the registrant back to his local board with the recommendation that he be further studied by the Medical Advisory Board. Obviously, this procedure should not be followed.

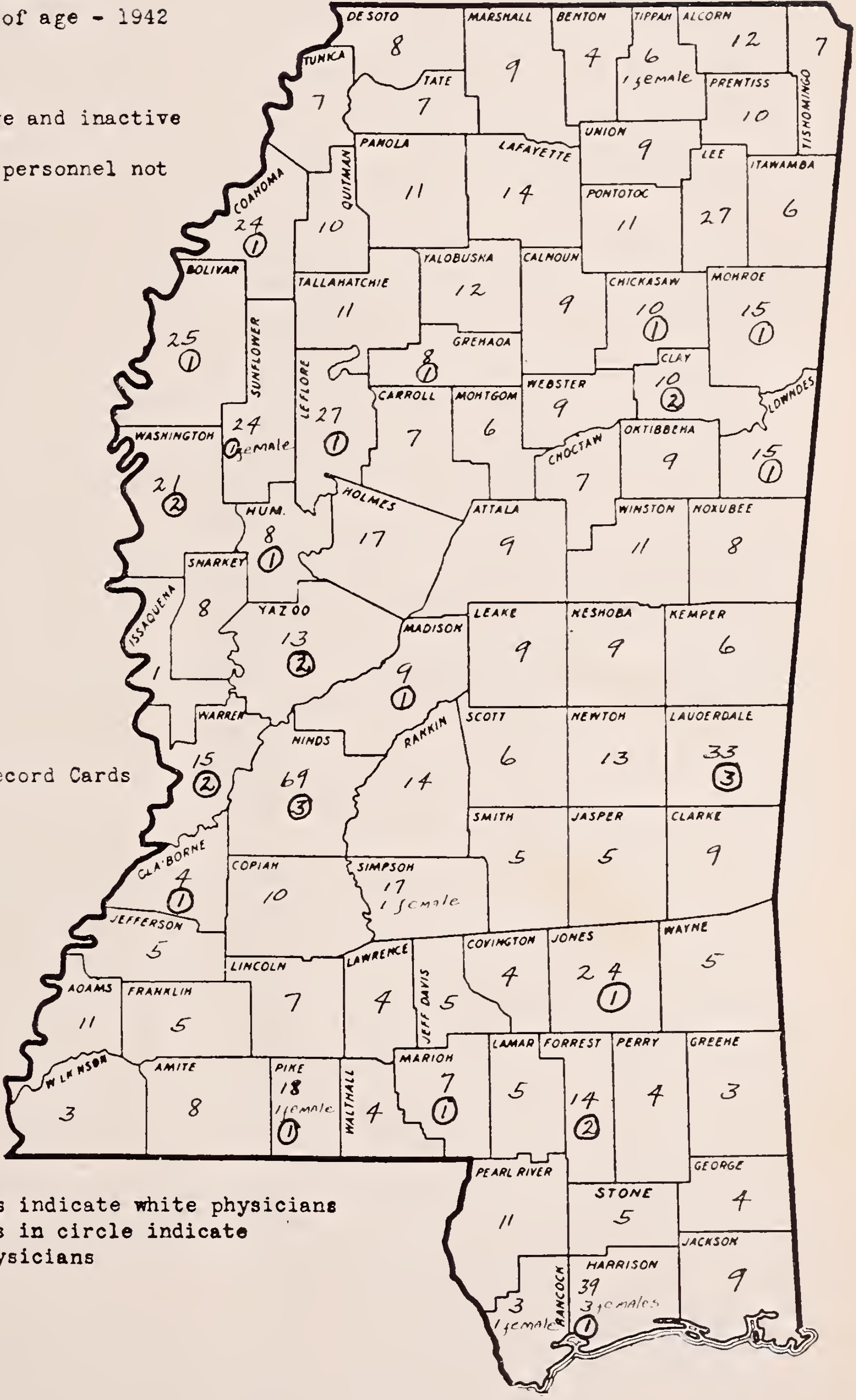
In addition to the use of the Medical Board in studying selected cases rejected at the Army Examining and Induction Station, another function which is considered quite important is the use of not only the Medical Advisory Board, but also the examining physician of the local board in a program of rehabilitation. Men are sent back to the local board from the Army with the statement that were the correctible defects not present they would have been accepted for general military service. It will be necessary to refer these men to the local board examining physician and, in certain cases, to the Medical Advisory Board for a professional opinion. This opinion may necessitate a statement by the Selective Service physician as to the advisability of rehabilitation, and the proper procedure in bringing about the correction of such defects. After the defects have been reported corrected by the designated physician, the registrant will again be required to appear before the examining physician or, in some cases, the Medical Advisory Board, to ascertain whether or not the defect has been properly corrected.

There is another important function to be performed by Selective Service physicians and that is to assist in the reclassification of men who, to this time, have been deferred because of their physical condition, and have been classified as I-B or IV-F. Many of these men have correctible defects which, if corrected, will make them more suitable for acceptance by the armed forces. There are also those registrants who have minor defects, which in the light of the less rigid interpretation of physical standards and the present urgent need for manpower could be considered acceptable for military service. It would be well for the local board physician to review the records of all men rejected on physical grounds. Those who do not have the defects or conditions stated in the List of Defects, Part 623 of the Regulations, should be reclassified as I-A by the local board and returned to the Army Examining and Induction Station for reëxamination and final decision. In this way, obviously, many men may be reclaimed.

The Medical Division at National Headquarters, Selective Service, has attempted to keep the director advised as to the supply and demand of physicians for civilian needs. That there has been an over-all national shortage of physicians is known to us all. For that reason, before Pearl Harbor, National Headquarters recommended that physicians should be deferred as far as possible, commensurate with civilian requirements and Army needs. Now, with the urgent need for physicians in the armed forces, National Headquarters is considered a reclassification of all doctors registered with Selective Service, with a view to making an adequate number available for service. Since war has been declared, deferment for dependency has been considerably curtailed. In fact, dependency acquired after September 16, 1940, and more especially since December 8, 1941, will not be considered except under certain extenuating circumstances. The problem of dependency is now undergoing extensive study, especially as applied to physicians. The most recent regulations in Selective Service concerning deferment for dependency, provide for the subdivision of Class III. In Class III-A will be placed those registrants who are deferred by reason of dependency alone. In Class III-B will be placed those registrants who are deferred by reason of dependency and because they are engaged in an activity essential to the war program or support of the war effort. In the case of physicians, the matter of deferment for dependency, except in rare instances, may not be considered. The reason for this is that a physician when taken into the service will, in practically all cases, be commissioned with the appropriate compensation for the grade. This should, in most instances, preclude any actual hardship of de-

MISSISSIPPI PHYSICIANS
Over 45 years of age - 1942

Includes active and inactive
physicians
Public Health personnel not
included


DE SOTO 8
MARSHALL 9
BENTON 4
TIPPAH 6 1 female
ALCORN 12
TISHOMINGO 7
TUNICA 7
TATE 7
PRENTISS 10
UNION 9
PANOLA 11
LAFAYETTE 14
LEE 27
ITAWAMBA 6
COAHOMA 24 ①
QUITMAN 10
PONTOTOC 11
BOLIVAR 25 ①
TALLAHATCHIE 11
YALOBUSHA 12
CALHOUN 9
CHICKASAW 10 ①
MONROE 15 ①
SUNFLOWER 24 ① female
LEFLORE 27 ①
GRENADA 8 ①
CLAY 10 ②
CARROLL 7
MONTGOMERY 6
WEBSTER 9
LOWNDES 15 ①
WASHINGTON 21 ②
OKTIBBEHA 9
CHOCTAW 7
HOLMES 17
HUM. 8 ①
ATTALA 9
WINSTON 11
NOXUBEE 8
SHARKEY 8
ISSAQUENA 1
YAZOO 13 ②
MADISON 9 ①
LEAKE 9
NESHOBA 9
KEMPER 6
WARREN 15 ②
HINDS 69 ③
RANKIN 14
SCOTT 6
NEWTON 13
LAUDERDALE 33 ③
SMITH 5
JASPER 5
CLARKE 9
CLAIBORNE 4 ①
COPIAH 10
SIMPSON 17 1 female
JEFFERSON 5
COVINGTON 4
JONES 24 ①
WAYNE 5
LINCOLN 7
LAWRENCE 4
JEFF DAVIS 5
ADAMS 11
FRANKLIN 5
LAMAR 5
FORREST 14 ②
PERRY 4
GREENE 3
WILKINSON 3
AMITE 8
PIKE 18 1 female ①
WALTHALL 4
MARION 7 ①
GEORGE 4
PEARL RIVER 11
STONE 5
JACKSON 9
HANCOCK 3 1 female
HARRISON 39 3 females ①

Source:
Physicians' Record Cards

Black numerals indicate white physicians
Black numerals in circle indicate
colored physicians

keep our records entirely up-to-date. In a few instances, county health officers have overlooked giving us important information with regard to physicians; and inasmuch as we are dependeent upon information obtained through the local county health officers, we have regretted our inability to obtain accurate information in every instance. We appreciate the interest that you have shown in furnishing us with information, and we hope that you will renew your efforts during the coming months when there will be more changes than ever before . . ."

Physicians are urgently requested to cooperate with the local and state health departments in reporting any changes.

It will be of interest to note the total physicians in Mississippi by age groups, as of May 1942. These figures are exclusive of public health personnel:

Ages	*Total*
20-30	38
31-40	200
41-50	140
51-60	343
61-70	383
71-80	122
81-91	35

The accompanying maps portray more vividly than words the exact status of the distribution of physicians in Mississippi.

THE FOLLOWING PRIVATE PHYSICIANS HAVE GONE INTO SERVICE

Name	*Address Prior to Entering Service*
Anderson, G. C.	Biloxi
Atkinson, R. H.	Water Valley
Baines, T. A.	Jackson
Berman, M. D.	Jackson
Berry, C. T.	Greenville
Blaine, J. G.	Jackson
Bolton, E. L.	Biloxi
Bramlett, E. V.	Oxford
Burt, L. W.	Laurel
Bush, E. A.	Laurel
Campbell, G. A.	West Point
Canizaro, V. J.	Vicksburg
Casey, W. D.	Walls
Chambers, W. L.	Pickens
Chunn, C. F.	Vicksburg
Cohen, Emanuel	Pace
Dabney, W. M.	Okolona
Dale, S. C.	Jackson
Davis, J. T.	Corinth
Dees, J. G.	Jackson
Dorris, H. C.	Winona
Dorsey, C. F.	Brookhaven
Eddlemman, T. S.	Jackson
Edmondson, H. E.	Edwards
Eubanks, G. W.	Greenville
Ewing, M. Q.	Amory
Faulkner, Roscoe	Batesville
Fox, J. H.	Jackson
Freedman, H. D.	Senatobia
Goldfarb, P. M.	Vicksburg
Hand, W. F.	Jackson
Hicks, G. Y.	Vicksburg
Hosie, J. L.	Electric Mills
Howell, J. B., Jr.	Canton
Hudson, L. B.	Hattiesburg
Hull, J. A.	Indianola
Hull, W. A.	Indianola
Hutchins, J. D.	Crystal Springs
Jackson, G. W.	Sardis
Jenkins, C. R.	Ellisville
Johnson, C. C.	Greenville
Johnson, J. R.	Jackson
Johnston, W. E.	Vicksburg
Jones, I. H.	Meridian
Johnes, W. C.	Indianola
Kendall, N. F.	Jackson
Laird, E. L.	Union
Lamb, R. D.	Columbus
Logan, J. G.	Natchez
Massengill, F. C.	Brookhaven
Massengill, R. C.	Brookhaven
Melvin, E. A.	Gulfport
Merriam, L. B.	Waynesboro
Mitchell, C. B.	Starkville
Moorhead, R. J.	Yazoo City
Morrison, M. E.	Oxford
Moseley, L. B.	Jackson
Myres, O. P.	Indianola
McCarthy, A. M.	Electric Mills
McDill, J. E.	Jackson
McKinnon, J. G.	Hattiesburg
Noblin, W. E., Jr.	Jackson
Pittman, W. C.	Bay St. Louis
Pritchard, C. D.	Lambert
Purser, Thomas, Jr.	McComb
Ramsay, F. L.	Laurel
Ray, R. B.	Kosciusko
Robbins, E. P.	Brookhaven
Saunders, J. H.	Laurel
Simpson, R. K.	Macon
Slaughter, W. J.	DeKalb
Smith, R. W.	Canton
Stallworth, W. L.	Columbus
Stowers, W. K.	Natchez
Terrell, K. D.	Tupelo
Vincent, R. P.	Yazoo City
Warriner, R. B., Jr.	Corinth
Westerfield, J. A.	Merigold
Williams, H. S., Jr.	Jackson
Williams, J. W.	Greenville
Wilson, T. E., Jr.	Jackson

TOTAL 81

THE FOLLOWING COUNTY HEALTH OFFICERS HAVE GONE INTO SERVICE

Armstrong, W. R.	Iuka
Beaver, W. C.	Brandon
Hand, B. F.	Greenville
McCalip, H. L.	Yazoo City
Nadeau, A. T., Jr.	Pascagoula
Neukom, G. B.	Batesville
Sims, M. M.	Oxford
Vandergrift, A. P., Jr.	Hernando
Young, J. G.	Holly Springs

TOTAL 9

Called for service .... Dr. E. W. Ryan, Gulfport

THE FOLLOWING PRIVATE PHYSICIANS ARE NOW SERVING IN SELECTIVE SERVICE OF THE STATE OF MISSISSIPPI

House, N. C.	Belzoni
Long, L. W.	Jackson

THE FOLLOWING PHYSICIANS ARE NOW SERVING IN RECRUITING SERVICE

McNair, S. S.	Jackson
Young, J. G.*	Holly Springs

*Counted only once, May, 1942.

THE FOLLOWING PHYSICIANS WITH

PHYSICIANS WITH PUBLIC HEALTH EXPERIENCE IN THE SERVICE

Armstrong, J. H.	Oxford
Sneed, Ralph	Jackson

GRAND TOTAL 95

MISSISSIPPI PUBLIC PERSONNEL CALLED TO THE SERVICE

HEALTH OFFICERS

W. R. Armstrong, M.D.	Iuka
W. C. Beaver, M.D.	Brandon
Hugh McCalip, M.D.	Yazoo City
A. T. Nadeau, Jr., M.D.	Pascagoula
George B. Neukom, M. D.	Batesville
M. M. Sims, M.D.	Oxford
Arthur Vandergrift, M.D.	Hernando
Jack G. Young, M.D.	Holly Springs
E. W. Ryan, M.D.	Gulfport

PUBLIC HEALTH NURSES

Marie Fiveash	Hazlehurst
Sybil Freiman	Hernando
Herma P. Smith	Holly Springs
Marion Tauzin	Oxford
Tennie Young	Canton

SANITATION SUPERVISORS

R. E. Caldwell	Gulfport
Charlie J. Crews	DeKalb
T. F. Durham	Jackson
Robert English	Iuka
Charles E. Greene	Canton
Donald Jones	Jackson
W. L. Maxey	Jackson
Lloyd Meredith	Rolling Fork
W. E. McFatter (U.S.P.H.S.)	Jackson
Phillip W. Shaw	Vicksburg
W. W. Thurman	Columbia
Dick Whitehead	Hattiesburg
R. J. Williams	Jackson
James Woodruff	Brookhaven

LABORATORY WORKERS

Ralph Milone (U.S.P.H.S.)	Jackson
Gordon Reeves	Jackson

AUDITING DEPARTMENT

J. T. Grantham	Jackson

Woman's Auxiliary
TO THE MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. V. B. Philpot Houston
President-Elect	Mrs. H. C. Ricks Jackson
First Vice-President	Mrs. W. K. Stowers Natchez
Second Vice-President	Mrs. Henry Boswell Sanatorium
Third Vice-President	Mrs. W. H. Anderson Booneville
Assistant	Mrs. Bernard Patrick Corinth
Fourth Vice-President	Mrs. Stanley Hill Corinth
Recording Secretary	Mrs. George E. Riley Jackson
Treasurer	Mrs. J. D. Simmons Cleveland
History and Archives	Mrs. Harvey Garrison, Sr. Jackson
Parliamentarian	Mrs. W. C. Pool Cary

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District, Mrs. S. H. Liddell, Myrtle; Third District, Mrs. W. J. Aycock, Calhoun City; Fourth District, Mrs. J. K. Avent, Grenada; Fifth District, Mrs. H. C. Sheffield, Jackson; Sixth District, Mrs. H. Lowry Rush, Meridian; Seventh District, Mrs. R. F. Ratliffe, Lucedale; Eighth District, Mrs. J. S. Ullman, Natchez; Ninth District, Mrs. R. C. Ely, Moss Point.

Advisory Council: Dr. H. Lowry Rush, Meridian; Dr. A. Street, Vicksburg; Dr. E. C. Parker, Gulfport; Dr. Billy S. Guyton, Oxford; Dr. Jake Ullman, Natchez.

THE NEW PRESIDENT

The new president, Mrs. Philpot, has been busy the past months preparing herself for the responsibilities of leadership that rest upon her shoulders. Following the direction of the advisory council, she will stress improved health standards for greater wartime effort.

There is no member of the Auxiliary who has risen as rapidly in the organization as Mrs. Philpot. Not long after she became active in her own unit, the Northeast Mississippi Thirteen Counties Auxiliary, she was chosen its head. In consecutive order she served her state organization as memorial chairman, parliamentarian and historian. A faithful attendant at meetings, Mrs. Philpot has demonstrated great interest in the work of the Auxiliary. She possesses for her task poise, a compelling personal charm, and a sincere desire to pilot our craft creditably through the uncertainties of the year ahead. Her message follows:

PRESIDENT'S MESSAGE

The assuming of my responsibility as your president would overwhelm me were it not for the faith I have in you in giving me support and coöperation necessary to furthering the interests of our Auxiliary.

During these serious war days of tension and nervous anxiety, when promotion of defense measures are our first duties, let us make every effort to keep our organization strong, being ever mindful in the planning of our programs the importance of our original and standing objectives, namely, prevention, tuberculosis, cancer control, *Hygeia*, doctor's day, research and romance of medicine, legislation, and those important responsibilities which lie in the hands of the Public Relations chairman. Here I want to express appreciation for the consideration shown the Auxiliary in our state journal, *The Mississippi Doctor*. This is a great medium of information and inspiration. Please heed the request to send in all interesting and vital material.

"Perhaps it never was more important than it is today that our councils should be filled with wisdom and that the execution of our plans should be more efficient."

We realize that a state organization is strong only as each component auxiliary is strong; each component auxiliary is strong only as each individual member is strong, and this strength depends on being well informed. The Handbook carries information and guidance to all interested workers. We are very fortunate in having available the compiled information concerning all of our interests in the *Bulletin*. This is our official organ just as is the Journal of the American Medical Association for that organization. All officers, as well as members, should subscribe to it.

Please let me stress the importance of each component auxiliary's having an advisory council. It is necessary also for officers of component auxiliaries to correlate with those of the State Auxiliary, also for the president of local auxiliaries to appoint chairmen of the same standing committees as those of the state. These corresponding officers and committeewomen are therefore a valuable agency through which the parent organization may function.

Truly, we have but one goal — to see our auxiliary a factor in this emergency. Never before have there been greater opportunities for the doctor's wife to render greater service, not only to her community, but to humanity.

In our two great objectives, health and nutrition, let us realize the full meaning of nutrition, remembering it involves not altogether physical fitness, but also state of mind and of soul.

On remembering the aims of our auxiliary, as put down for us by the Auxiliary to the American Medical Association, namely: "to interpret the aims of the medical profession to other organizations interested in the promotion of health education; to do the things approved by the advisory council," we realize the great responsibility we have as a medium between the medical profession and the laity. This requires unity and understanding of purpose. Individualism is fruitless. To keep it alive destroys the essence of harmony. Competition cannot last and is wasteful.

Dr. Frank Crane says "only in coöperation do we eliminate wars. We are to be one. We are to have one law, one civilization, one morality, one world government, not by the devices of man, but by the will of God."

So, during this year, let us come close together, having that sincere interest in each other which brings about a personal touch, so vital in attaining goals in a unified organization. Let us have the "consciousness on the part of us for the welfare of all of us."

Before closing this message, I want to express my love and appreciation of each of you and pledge you my every effort in serving you during the year and leave this thought with you, expressed in the words of the poet.

"To help mankind in word and deed;
To courage give to those with fears,
To dry sad eyes now filled with tears,
To lonely hearts comfort bring,
Teach the universe to sing;
Show that thoughts are things of power,
That life is lived from hour to hour;
Share my all with those who need—
'Service' should be our creed."

MRS. RICKS CHOSEN PRESIDENT-ELECT

Mrs. H. C. Ricks, one of the most faithful and thoroughly prepared members of the state organization, assumes the duties of president-elect. The wife of the head of the laboratory at the State Board of Health, she has been active for many years in the Ceneral Medical Auxiliary. She served as secretary for the state for several years also. A little reserved, but gentle, gracious, dependable always, she performs her work with such efficiency and effectiveness she deserves the genuine admiration and confidence which every member holds for her. Sharing the vision of a husband who has progressive ideas of medical service, Mrs. Ricks will do much to help doctors' wives over the state grasp their true role in the profession. Her own loyalty and devotion to the ideals of the medical profession will be an inspiration. Her purposeful desire to serve with all her faculties assures us of wise and safe guidance.

ANNUAL SESSION MARKED BY WARM HOSPITALITY

The wives of Jackson doctors and the Central Medical Auxiliary managed an especially delightful session this year, even with all their defense work and duties assumed as their part in the national emergency.

Mrs. H. C. Sheffield, Jackson, secretary, said that the 1942 convention of the Auxiliary to the State Medical Association was marked by the largest attendance in the history of the organization. One hundred and six wives of doctors registered.

The convention opened with a board meeting on Tuesday. Tuesday afternoon delegates were honored by the Central Medical Auxiliary with a tea at the North State Street home of Dr. and Mrs. C. M. Speck.

Roses, lilies and other lovely spring flowers were arranged with superb effectiveness in the living-room. Sweetpeas and delphiniums predominated the floral centerpiece in the dining-room, where the exquisitely appointed tea table was presided over by Mrs. N. C. Womack and Mrs. J. O. Segura. Mrs. A. L. Gray, Mrs. Temple Ainsworth, Mrs. F. D. Hollowell, and Mrs. J. W. Lipscomb served the collation of dainty foods.

Guests were received by: Mrs. J. A. Milne, Jackson, chairman of the tea committee; Mrs. W. L. Hughes, president of the Central Medical Auxiliary; Mrs. W. K. Stowers, Natchez, president of the Mississippi State Medical Auxiliary; Mrs. R. H. Clark, Hattiesburg, president-elect of the Southern Medical Auxiliary; Mrs. V. B. Philpot, president-elect of the state organization; Mrs. E. C. Parker, Gulfport; Mrs. Augustus Street, Vicksburg; Mrs. W. H. Anderson, Booneville; Mrs. H. Lowry Rush, Meridian; Mrs. Stanley Hill, Corinth; Mrs. H. C. Sheffield, Jackson; Mrs. J. D. Simmons, Cleveland; Mrs. Harvey F. Garrison, Sr., Jackson; Mrs. John B. Howell, Canton; Mrs. J. Rice Williams, Houston; Mrs. A. G. Wilde, Jackson; Mrs. Henry Boswell, Sanatorium; Mrs. P. R. Reaves, Jackson; Mrs. Percy Wall, Jackson; Mrs. W. W. Crawford, Hattiesburg; Mrs. H. C. Ricks, Jackson; Mrs. John Harter, Sanatorium; Mrs. George E. Riley, Jackson; Mrs. J. G. Thompson, and Mrs. Lawrence W. Long, Jackson.

Mrs. Harvey F. Garrison, Sr., entertained the past-presidents with a memorable breakfast, served English style at her home on Gillespie, Wednesday morning. She was assisted by Mrs. W. R. Bethea, Mrs. Harvey Garrison, Jr., and Mrs. James Grant Thompson as co-hostesses.

Sweetpeas and sweet William predominated in the central table arrangement. The breakfast was served on the spacious tile porch of the Garrison home.

Guests were: Mrs. M. H. Bell, of Vicksburg; Mrs. W. C. Pool, Cary; Mrs. F. L. VanAlstine, Jackson; Mrs Henry Boswell, Sanatorium; Mrs. Leon Lippincott, Vicksburg; Mrs. A. G. Wilde, Jackson; Mrs. John B. Howell, Canton; Mrs. Hugh H. Johnston, Vicksburg; Mrs. E. C. Parker, Gulfport; Mrs. W. K. Stowers, Natchez; Mrs. V. B. Philpot, Houston; Mrs. Richard Clark, Hattiesburg, president-elect of the Southern Medical Auxiliary.

The business session Wednesday morning was followed by a luncheon at the Edwards Hotel. Featured speakers were Dr. W. A. Evans, of Beauvoir, well-known retired physician, a native of Aberdeen, and Dr. Emma Gay, head of the Mississippi Women's Field Army for the Control of Cancer.

The new officers of the Auxiliary were presented at the luncheon, and the president, Mrs. Van Buren Philpot, Houston, addressed the delegates charging them with their responsibility in meeting the challenge of the present emergency. She also paid tribute to the officers who have served the auxiliary since its organization.

A meeting of the post convention board followed the luncheon.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

The quarterly meeting of the Northeast Mississippi Thirteen Counties Auxiliary was held at the home of Mrs. A. E. Brown in Columbus, June 9. Mrs. Stanley A. Hill, Corinth, presided. Mrs. V. B. Philpot, Houston, state president, reported on the state meeting. Mrs. W. J. Aycock, councilor, urged the doctors' wives of unorganized counties to engage in auxiliary work. (The wives of Lowndes County announced their intention to organize the following week.)

Following business preliminaries, Dr. W. C. Walker of Houlka brought greetings and Mrs. T. P. Haney of Iuka was welcomed back after an absence of two years. Mrs. Edward Slaughter of Columbus was then presented as the guest speaker. Her paper contained much pertinent information on nutrition and the choice and preparation of foods, an objective being stressed this year.

Following the meeting the guests were taken on a pilgrimage to six homes of antebellum interest: the home of Mrs. A. G. Withers, whose collection of early American glass and fine antiques is especially noteworthy; the Andrew Puckett home, which is outstanding for its stately Southern architecture and handsome furnishings; the recently restored place of the J. T. Dosters, Jr., where tea was served by the Columbus hostesses; both the J. S. Billups and T. C. Billups homes, where priceless family heirlooms have been cherished by six generations; and the C. E. Lehmberg home, where hoop-skirted and gracious Southern belles received in each room of the house.

The members will meet in Amory for the September meeting.

COAST COUNTIES AUXILIARY

Mrs. E. W. Ryan and Mrs. D. B. Wilson were hostesses to the Coast Counties Medical Auxiliary at a luncheon on May 20 in Gulfport, at which Mrs. Daniel J. Williams, new president, announced the committee chairmen. They are Mrs. J. Davidson, Hygeia; Mrs. E. W. Ryan, Preventorium; Mrs. C. H. McCall, Bulletin; Mrs. H. E. Hoke, public relations, and Mrs. D. B. Wilson, doctor's day. Mrs. Wilson, a delegate to the State Medical Auxiliary meeting in Jackson, gave a report of the convention.

Mrs. H. K. Rouse, retiring president, thanked the members for their cooperation during the year. This was the last meeting of the year. Meetings of the group will be resumed October 21.

The following officers will serve during 1942-43: Mrs. Daniel J. Williams, president; Mrs. Joe P. Evans, president-elect; Mrs. H. K. Rouse, vice-president; Mrs. M. M. Snelling, corresponding secretary; Mrs. E. C. Parker, recording secretary; Mrs. W. P. Sheely, treasurer.

The auxiliary also celebrated Doctor's Day this year with open house for doctors on May 23 at the home of Dr. and Mrs. M. M. Snelling, 712 East Beach from 5 to 7 p.m. Fifty or more doctors and their wives enjoyed the gracious hospitality extended by the hosts. Dr. Snelling received his major's commission in the U. S. Army Medical Corps the following Monday.

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Oxford, was the first ever to administer oxygen through a nose tube in the treatment of pneumonia. Dr. Rowland has the profound respect of the members of the Association and he is not without honor in his own country.

The program was varied and interesting. One of the most illuminating papers was "Recent Research in Poliomyelitis," by Dr. D. W. Gudakunst of New York.

The first public meeting held in Convention Hall, Robert E. Lee Hotel, was presided over by Harvey F. Garrison, the versatile president of the Southern Medical Association. President Street read a valuable paper on "The Medical Profession To-day."

One of the outstanding features of the entire meeting was the Ewing Fox Howard Oration — "Jefferson Davis, Some of His Diseases and His Doctors" by Dr. W. A. Evans, Jefferson Davis Shrine, Biloxi. Whatever Dr. Evans says or writes is given marked attention. We dare say there is no one more familiar with the Honorable Jefferson Davis, Mississippi's first citizen of all time, than the esteemed Dr. Gus Evans. We are always interested in anything that pertains to Mr. Davis and this phase of his life has never before been brought out, but the essayist adds materially to the history of Mr. Davis.

For a layman, Mr. Davis had a comprehensive idea of medicine; often the slave owners practiced on the slaves because of the scarcity of doctors. Mr. Davis' family were very kind and gave their dependents every care. Read this entire article elsewhere in this journal and preserve it for future reading.

When on Mississippi's lovely coast, visit Beauvoir, Mr. Davis' last home; if perchance you know of any object or paper relating to him, forward it to Dr. Evans.

One enjoyable feature was the dinner given in the Victory Room. Foyer Parlor A, Heidelberg Hotel, to the essayists for the Victory Program and the elected officers of the Association, by Dr. Lawrence W. Long, Major, M.C., AUS, Chief of the Medical Division and acting Director of the State Selective System. The speakers were Capt. Lucius Johnson, Commander U. S. Naval Hospital, Pensacola. Florida, speaking on "Keeping the Navy Fit."

Major R. A. Bier, assistant chief of the Medical Division, Selective System, Washington, D. C., spoke on "The Future of Medicine in Selective Service." He emphasized the urgency of the need of doctors for the army and allied services. "Selective Service will look to the procurement and assignment service for advice as to your indispensability or availability in relation to your professional standing and the need of your services in the community, and will classify you accordingly." Medical students and internes will be deferred only for a year. Major Bier commended the state medical section of selective service handled by Major Lawrence W. Long. It is clearly realized that the medical profession will be one of the first groups to feel the effects of the draft and assignment to war and allied work. The effect upon civilian health will not be disregarded. The doctors and the people of Mississippi will be found responding to every call of duty.

Dr. C. L. Williams, medical director of District 4, U. S., P. H. S. at New Orleans, addressed the Victory Program on that organization's part in the present world conflict.

The last speaker was our own Major Charles B. Mitchell, Chief Medical Examiner, Induction Station, Camp Shelby. Dr. Mitchell was for twenty-odd years the college physician at Mississippi State. He inaugurated the system of a complete examination and record of every student who entered the college. Major Mitchell came of a fine family of people and his oratory is by inheritance as are his other virtues.

Prior to the public meeting, the invited guests of Major Long marched into the convention hall, led by a color guard of the Marine Corps. Just before the guests were seated on the stage *The Star Spangled Banner* was enthusiastically sung by the large crowd.

The Mississippi State Pediatric Society, Mississippi State Hospital Association and the Louisiana-Mississippi Ophthalmological and Otolarygological Society had their meetings on the day prior to the medical association.

Dr. Ralph Bowen of Houston, Texas, who read an interesting paper on "The Practical Management of the Asthmatic Child," says: "In the home the child may be affected by the pet dog or cat, or furred toy. Model building and stamp collecting may expose him to glues. The family medicine cabinet frequently contains many new drugs and cosmetics which activate an allergy. The gulf spray and filt gun contain a pyrethrum base which is offending to some ragweed suffers. Many plants within and about the home are trouble makers. Occasionally molds or mildews may be a factor. Last, but not least, don't overlook the weekend cathartic. Dr. Bowen tells of the influential part that heredity plays in allergy.

The Commercial Exhibit Space was well filled and much interest was manifested in the respective lines. Chairman Jones presented the gentlemen in charge and suggested that a vote on the least good-looking be taken, but when this matter was brought up, silently, and with unanimity, the entire audience looked at Chairman Jones and Speaker J. Rice Williams.

The Council in its deliberations is a body resembling a senate; each councilor shall be organizer, peacemaker and censor for his district. Every councilor was present and made an encouraging report. Dan. J. Williams is chairman and W. H. Frizell, secretary.

CAMP SHELBY TREATMENT OF RUPTURED APPENDIX

The favorable comments on the scientific exhibit of Capt. Buford Word, M.C. of the Surgical Service, Station Hospital, Camp Shelby, Mississippi, on the treatment of acute appendicitis with rupture and generalized peritonitis at the recent state meeting in Jackson warrants a brief outline of the method employed in handling such cases.

1. Appendectomy.
2. Place sulfanilamide powder in peritoneal cavity.
3. 1% sulfanilamide subcutaneously.
4. Repeated blood transfusions.
5. Continuous Wangensteen suction.
6. Supply oxygen freely in distended cases.

From January 13, 1941, to May 6, 1942, 647 appendectomies were performed at the Station Hospital. Of this number 22 were found to have ruptured prior to operation and generalized peritonitis of varying extent and severity was in progress. No deaths occurred in the entire series. All cases were operated upon under spinal anesthesia through a Rockey or McBurney incision and closed without drainage.

One of the pictures in the exhibit showed a simple apparatus to lavage the peritoneal cavity with a 10% suspension of sulfanilamide after the appendix was removed. The apparatus consisted of an ordinary saline infusion bottle filled with 10% sulfanilamide suspension and a suction machine. After appendectomy approximately 100 cc. of the solution are allowed to run into the peritoneal cavity and then withdrawn by gentle suction. The procedure may be repeated as many times as deemed necessary by the operating surgeon and is effective in placing sulfanilamide powder on infected loops of bowel remote from the operative field that would not be reached by pouring the powder in or blowing it in with an insufflator.

After the peritoneal cavity has been "lavaged," 5 gms. of sterile sulfanilamide powder are spread directly beneath the operative wound. After the peritoneum is closed the same solution is used to "wash out" the operative wound.

Sulfanilamide is given in 1% solution by hypodermoclysis, 150 cc. every six hours. The amount of the solution may be increased and the time interval between doses may be shortened to keep the blood concentration of the drug at optimum. It is felt that chemotherapy is better controlled when given by needle than by mouth, particularly if the patient has Wangensteen suction apparatus inserted. Continuous intragastric aspiration is always used when the cases develop distention and blood is given as a general supportive measure. Small repeated transfusions are recommended.

Oxygen has been used in treating cases with abdominal distention due to peritonitis and was found by members of the Surgical Staff at Camp Shelby, Mississippi, to benefit their patients. The physiological basis for the improvement noted in a distended patient when oxygen is supplied freely is due to the exclusion of nitrogen from the inspired air and the migration of nitrogen from the intestinal tract to the outside of the body, via the lungs, in accordance with the partial-pressure gas law that governs the diffusion of gases through a semi-permeable membrane.

All of the above measures are not employed in every case. However, if the indication arises all measures, or a combination of any, are used.

Since the application of sulfanilamide powder directly into the peritoneal cavity in the treatment of cases of peritonitis has been accepted by the medical profession as a rational procedure, it was interesting to note from the exhibit that the first reference in the literature of this method of treatment was found in the *Mississippi Doctor*, 18:215, September, 1940, Dees, J. Gorden: "A Valuable Adjunct In Perforated Appendices."

Mississippi State Medical Association

Organized 1867 **Next Meeting: May 11, 12, 13, 1943**

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COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet	Third Tuesday 7:30 p.m.
Alcorn	D. W. Hamrick, Corinth	R. H. DeJarnette, Corinth	Third Friday, 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central Medical	R. B. Austin, Forest	James G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Marks	Guy R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	F. M. Acree, Greenville	Sec. Wed. April & Oct., 2 p.m.
DeSoto	C. W. Emerson, Hernando	L. L. Minor, Memphis, Rt. 4	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-War.	Hugh Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	C. R. Senter, Byhalia	H. Phillips, Holly Springs	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	Stanley A. Hill, Corinth	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	J. M. Smith, Magnolia.	V. S. Holmes, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., Mch., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Fields, Centerville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

EAR, NOSE AND THROAT

Nonsurgical Treatment for Deafness, Edmund P. Fowler, Jr., M.D., The Laryngoscope, Vol. LII, No. 3, page 204.

This is a very comprehensive article by an experienced and understanding otologist.

His discussion on psychotherapy is remarkably lucid and clinically applicable. When the hearing cannot be improved, if the otologist can keep the patient from being despondent, keep him in good spirits and encourage the use of a hearing instrument or taking a course in lip reading, much will have been accomplished.

The author's report on the use of prostigmin is the best that has yet been presented. Subjectively, 50 per cent of his cases reported improvement after taking prostigmin injections for one month; and 67 per cent reported improvement after taking the treatments more than three months. On the other hand only 33 per cent reported improvement in tinnitis after one month's treatment and this dwindled to 15 per cent improvement when taken over three months. Audiometric tests did not confirm such improvement. Of 82 clinic patients, 7 cases showed 10 decibels improvement in one frequency, 8 showed 10 decibels improvement in two frequencies, 1 case showed 10 decibels improvement in three frequencies and 10 cases showed 10 decibels improvement in four or more frequencies. The author treated a series of control cases with injections of saline. Of these, 19 per cent reported subjective improvement and 23 per cent showed an improvement in tinnitis. Further, he reported 18 unpleasant reactions to prostigmin—20 per cent reactions.

The author points out that one kind of deafness that can be improved by treatment, even in adults, is that caused by obstruction of the Eustachian tubes.

The author has used three forms of radiotherapy: a capsule of 250 millicuries of radon, 25 milligram capsules of radium and roentgen therapy. While the first has obvious advantages over the second, he feels that it may be a dangerous procedure for the operator, if used often. The second he has found very satisfactory. He feels that roentgen therapy presents certain advantages, as well as disadvantages, over radium therapy. He feels that the beneficial result is not necessarily the reduction of the lymphoid tissue but the reduction of inflammation in the subepithelial tissue in the nose, and consequent reduction of secretion. Therefore he feels that in those cases in which the sinuses are involved, roentgen rays are definitely superior. On the other hand, he reports a few cases of temporary swelling of the parotid glands and others with dry throats for two or three days. One extremely sensitive adult developed a rash and then a fine growth of hair over the irradiated skin of the neck. However, he feels that radiotherapy is definitely beneficial. Like Crowe, he reports better results in children than in adults.

The author is not over enthusiastic and points out that while, in some cases, the hearing cannot be improved, much can be done to help the deaf patient.

Local Use of Sulfathiazole In Management of Simple Mastoidectomy Wounds.—Du Point Guerry III, M.D., and F. Johnson Putney, M.D., New York City, Archives of Otolaryngology, Vol. 35, No. 3, page 399.

The rapid healing of purulent, sloughing mastoidectomy wounds after the local application of sulfathiazole crystals suggested to the authors the possibility of using the drug postoperatively in all cases of acute mastoiditis. This study was undertaken to evaluate the work of such a method.

The technique used by the authors is described as follows: "Complete simple mastoidectomy was carried out in the classic manner, care being taken in each instance to remove all the cells. As soon as the mastoidectomy cavity had been completely exenterated, it was flushed with warm physiologic solution of sodium chloride, to remove any remaining dèbris. In the control series the cavity was packed with half-inch plain or iodoform gauze packing and the wound closed with clips. No periosteal or mattress sutures were used. The external canal was packed tightly with plain gauze, which was not disturbed for five to six days. In the series in which chemotherapy was used, a similar procedure was followed in every respect except that the plain gauze packing was steeped in a paste made by mixing sulfathiazole crystals (2 to 3 gm.) with sufficient sterile water. The sulfathiazole was not sterilized but was poured directly from its original container into a sterile medicine glass. Wound clips were taken out on the third or fourth day, and beginning on the second or third day a few centimeters of the packing gauze was withdrawn daily, until by the sixth or seventh postoperative day all had been removed. Thereafter, the lower limit of the wound was kept patent with a Sirus drain until cessation of drainage permitted removal of the drain."

This procedure was carried out on 20 unselected cases. As a control, 20 unselected cases were operated and treated by the technique previously used; which was the same type of treatment except that plain gauze was used. None of the patients received sulfanilamide nor any of the derivatives either orally or parenterally before or after operation. All patients were seen during the same time of year under similar conditions and received exactly the same type of treatment with the exception of the local use of sulfathiazole.

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Felix J. Underwood, M.D.

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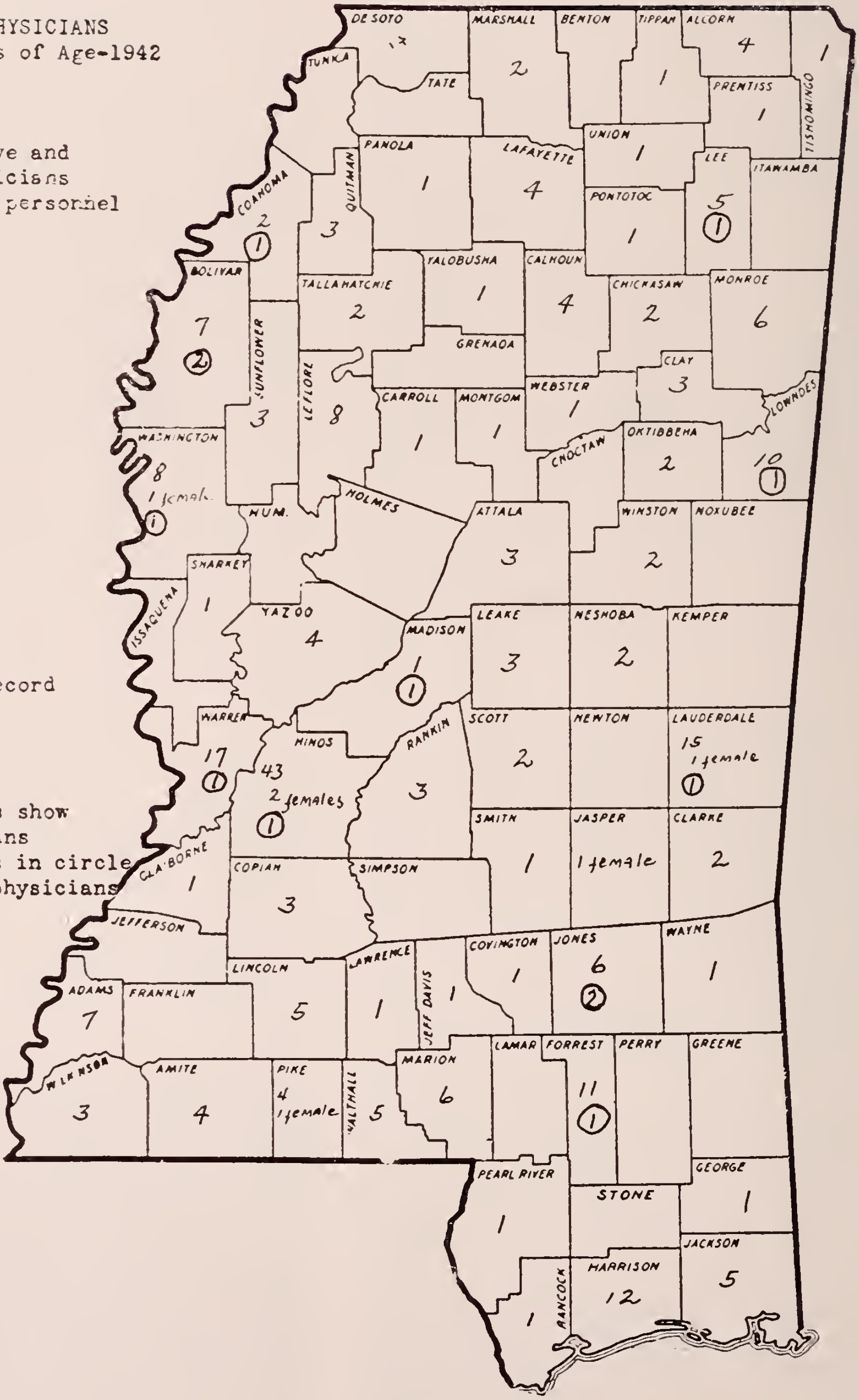
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COAHOMA
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QUITMAN
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YALOBUSHA
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CALHOUN
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CHICKASAW
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MONROE
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BOLIVAR
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TALLAHATCHIE
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SUNFLOWER
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LEFLORE
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GRENADA
CLAY
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WEBSTER
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CARROLL
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LOWNDES
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OKTIBBEHA
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ATTALA
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WINSTON
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NOXUBEE
SHARKEY
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ISSAQUENA
YAZOO
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MADISON
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LEAKE
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NESHOBA
2
KEMPER
WARREN
17
①
HINDS
43
2 females
①
RANKIN
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SCOTT
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NEWTON
LAUDERDALE
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1 female
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CLAIBORNE
1
COPIAH
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SIMPSON
SMITH
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JASPER
1 female
CLARKE
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JEFFERSON
LINCOLN
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LAWRENCE
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JEFF DAVIS
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COVINGTON
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JONES
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WAYNE
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ADAMS
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FRANKLIN
WILKINSON
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AMITE
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PIKE
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1 female
WALTHALL
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MARION
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LAMAR
FORREST
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①
PERRY
GREENE
PEARL RIVER
1
STONE
GEORGE
1
JACKSON
5
HANCOCK
1
HARRISON
12

MISSISSIPPI PHYSICIANS
Under 45 Years of Age-1942

Includes active and inactive physicians
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Source:
Physicians' Record cards

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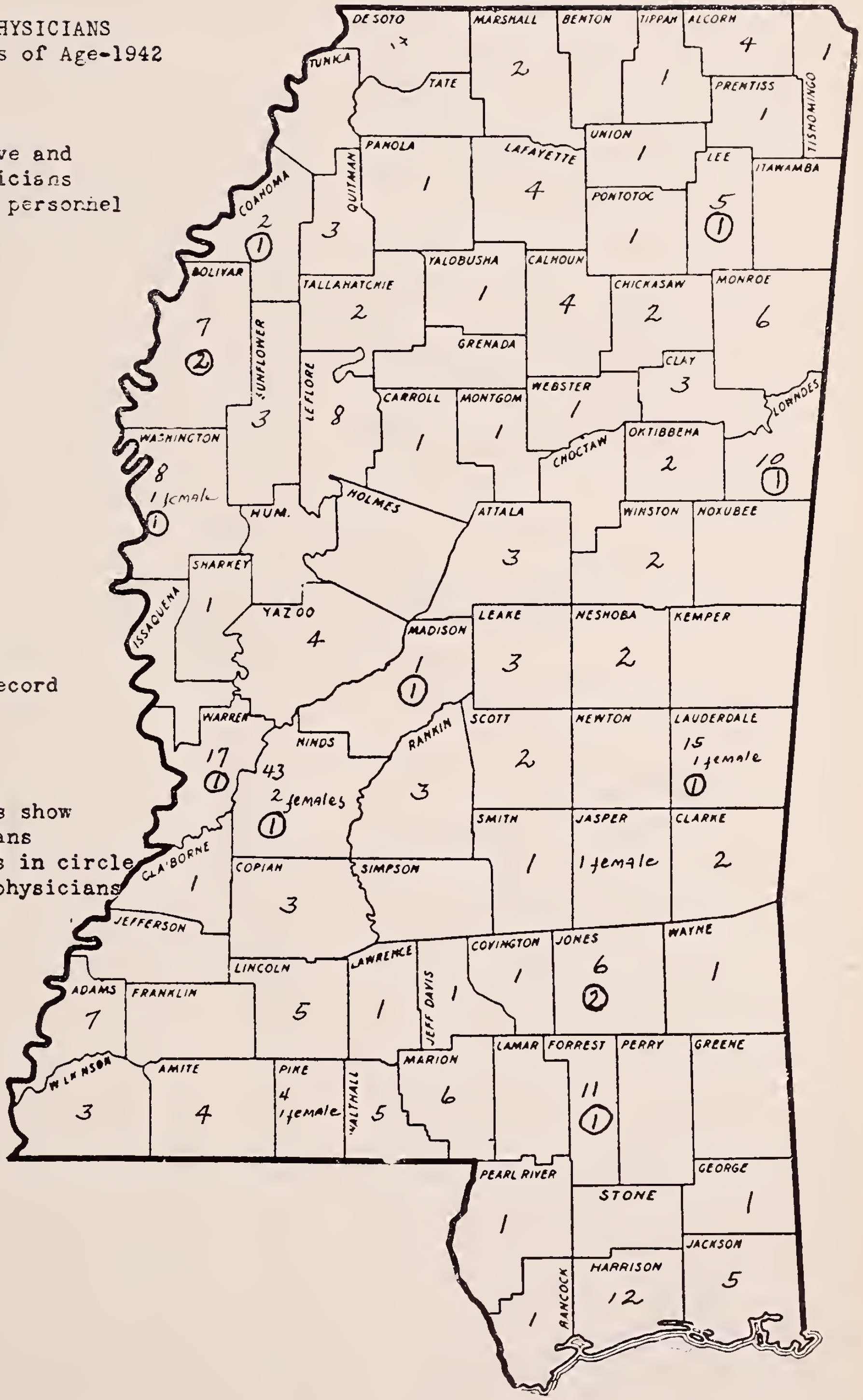
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BOLIVAR 7 ②
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YALOBUSHA 1
CALHOUN 4
CHICKASAW 2
MONROE 6
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LEFLORE 8
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YAZOO 4
MADISON 1 ①
LEAKE 3
NESHOBA 2
KEMPER
WARREN 17 ①
HINDS 43 2 females ①
RANKIN 3
SCOTT 2
NEWTON
LAUDERDALE 15 1 female ①
SMITH 1
JASPER 1 female
CLARKE 2
CLA'BORNE 1
COPIAH 3
SIMPSON
JEFFERSON
COVINGTON 1
JONES 6 ②
WAYNE 1
LINCOLN 5
LAWRENCE 1
JEFF DAVIS 1
ADAMS 7
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WILKINSON 3
AMITE 4
PIKE 4 1 female
WALTHALL 5
MARION 6
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FORREST 11 ①
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Interpreting Medical Literature

EAR, NOSE AND THROAT

NONSURGICAL TREATMENT FOR DEAFNESS, Edmund P. Fowler, Jr., M.D., The Laryngoscope, Vol. LII, No. 3, page 204.

This is a very comprehensive article by an experienced and understanding otologist.

His discussion on psychotherapy is remarkably lucid and clinically applicable. When the hearing cannot be improved, if the otologist can keep the patient from being despondent, keep him in good spirits and encourage the use of a hearing instrument or taking a course in lip reading, much will have been accomplished.

The author's report on the use of prostigmin is the best that has yet been presented. Subjectively, 50 per cent of his cases reported improvement after taking prostigmin injections for one month; and 67 per cent reported improvement after taking the treatments more than three months. On the other hand only 33 per cent reported improvement in tinnitis after one month's treatment and this dwindled to 15 per cent improvement when taken over three months. Audiometric tests did not confirm such improvement. Of 82 clinic patients, 7 cases showed 10 decibels improvement in one frequency, 8 showed 10 decibels improvement in two frequencies, 1 case showed 10 decibels improvement in three frequencies and 10 cases showed 10 decibels improvement in four or more frequencies. The author treated a series of control cases with injections of saline. Of these, 19 per cent reported subjective improvement and 23 per cent showed an improvement in tinnitis. Further, he reported 18 unpleasant reactions to prostigmin—20 per cent reactions.

The author points out that one kind of deafness that can be improved by treatment, even in adults, is that caused by obstruction of the Eustachian tubes.

The author has used three forms of radiotherapy: a capsule of 250 millicuries of radon, 25 milligram capsules of radium and roentgen therapy. While the first has obvious advantages over the second, he feels that it may be a dangerous procedure for the operator, if used often. The second he has found very satisfactory. He feels that roentgen therapy presents certain advantages, as well as disadvantages, over radium therapy. He feels that the beneficial result is not necessarily the reduction of the lymphoid tissue but the reduction of inflammation in the subepithelial tissue in the nose, and consequent reduction of secretion. Therefore he feels that in those cases in which the sinuses are involved, roentgen rays are definitely superior. On the other hand, he reports a few cases of temporary swelling of the parotid glands and others with dry throats for two or three days. One extremely sensitive adult developed a rash and then a fine growth of hair over the irradiated skin of the neck. However, he feels that radiotherapy is definitely beneficial. Like Crowe, he reports better results in children than in adults.

The author is not over enthusiastic and points out that while, in some cases, the hearing cannot be improved, much can be done to help the deaf patient.

LOCAL USE OF SULFATHIAZOLE IN MANAGEMENT OF SIMPLE MASTOIDECTOMY WOUNDS.—Du Point Guerry III, M.D., and F. Johnson Putney, M.D., New York City, Archives of Otolaryngology, Vol. 35, No. 3, page 399.

The rapid healing of purulent, sloughing mastoidectomy wounds after the local application of sulfathiazole crystals suggested to the authors the possibility of using the drug postoperatively in all cases of acute mastoiditis. This study was undertaken to evaluate the work of such a method.

The technique used by the authors is described as follows: "Complete simple mastoidectomy was carried out in the classic manner, care being taken in each instance to remove all the cells. As soon as the mastoidectomy cavity had been completely exenterated, it was flushed with warm physiologic solution of sodium chloride, to remove any remaining dèbris. In the control series the cavity was packed with half-inch plain or iodoform gauze packing and the wound closed with clips. No periosteal or mattress sutures were used. The external canal was packed tightly with plain gauze, which was not disturbed for five to six days. In the series in which chemotherapy was used, a similar procedure was followed in every respect except that the plain gauze packing was steeped in a paste made by mixing sulfathiazole crystals (2 to 3 gm.) with suffi-

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Delta Medical	J. D. Simmons, Cleveland	F. M. Acree, Greenville	Sec. Wed. April & Oct., 2 p.m.
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part that heredity plays in allergy.

The Commercial Exhibit Space was well filled and much interest was manifested in the respective lines. Chairman Jones presented the gentlemen in charge and suggested that a vote on the least good-looking be taken, but when this matter was brought up, silently, and with unanimity, the entire audience looked at Chairman Jones and Speaker J. Rice Williams.

The Council in its deliberations is a body resembling a senate; each councilor shall be organizer, peacemaker and censor for his district. Every councilor was present and made an encouraging report. Dan. J. Williams is chairman and W. H. Frizell, secretary.

CAMP SHELBY TREATMENT OF RUPTURED APPENDIX

The favorable comments on the scientific exhibit of Capt. Buford Word, M.C. of the Surgical Service, Station Hospital, Camp Shelby, Mississippi, on the treatment of acute appendicitis with rupture and generalized peritonitis at the recent state meeting in Jackson warrants a brief outline of the method employed in handling such cases.

1. Appendectomy.
2. Place sulfanilamide powder in peritoneal cavity.
3. 1% sulfanilamide subcutaneously.
4. Repeated blood transfusions.
5. Continuous Wangensteen suction.
6. Supply oxygen freely in distended cases.

From January 13, 1941, to May 6, 1942, 647 appendectomies were performed at the Station Hospital. Of this number 22 were found to have ruptured prior to operation and generalized peritonitis of varying extent and severity was in progress. No deaths occurred in the entire series. All cases were operated upon under spinal anesthesia through a Rockey or McBurney incision and closed without drainage.

One of the pictures in the exhibit showed a simple apparatus to lavage the peritoneal cavity with a 10% suspension of sulfanilamide after the appendix was removed. The apparatus consisted of an ordinary saline infusion bottle filled with 10% sulfanilamide suspension and a suction machine. After appendectomy approximately 100 cc. of the solution are allowed to run into the peritoneal cavity and then withdrawn by gentle suction. The procedure may be repeated as many times as deemed necessary by the operating surgeon and is effective in placing sulfanilamide powder on infected loops of bowel remote from the operative field that would not be reached by pouring the powder in or blowing it in with an insufflator.

After the peritoneal cavity has been "lavaged," 5 gms. of sterile sulfanilamide powder are spread directly beneath the operative wound. After the peritoneum is closed the same solution is used to "wash out" the operative wound.

Sulfanilamide is given in 1% solution by hypodermoclysis, 150 cc. every six hours. The amount of the solution may be increased and the time interval between doses may be shortened to keep the blood concentration of the drug at optimum. It is felt that chemotherapy is better controlled when given by needle than by mouth, particularly if the patient has Wangensteen suction apparatus inserted. Continuous intragastric aspiration is always used when the cases develop distention and blood is given as a general supportive measure. Small repeated transfusions are recommended.

Oxygen has been used in treating cases with abdominal distention due to peritonitis and was found by members of the Surgical Staff at Camp Shelby, Mississippi, to benefit their patients. The physiological basis for the improvement noted in a distended patient when oxygen is supplied freely is due to the exclusion of nitrogen from the inspired air and the migration of nitrogen from the intestinal tract to the outside of the body, via the lungs, in accordance with the partial-pressure gas law that governs the diffusion of gases through a semi-permeable membrane.

All of the above measures are not employed in every case. However, if the indication arises all measures, or a combination of any, are used.

Since the application of sulfanilamide powder directly into the peritoneal cavity in the treatment of cases of peritonitis has been accepted by the medical profession as a rational procedure, it was interesting to note from the exhibit that the first reference in the literature of this method of treatment was found in the *Mississippi Doctor*, 18:215, September, 1940, Dees, J. Gorden: "A Valuable Adjunct In Perforated Appendices."

Oxford, was the first ever to administer oxygen through a nose tube in the treatment of pneumonia. Dr. Rowland has the profound respect of the members of the Association and he is not without honor in his own country.

The program was varied and interesting. One of the most illuminating papers was "Recent Research in Poliomyelitis," by Dr. D. W. Gudakunst of New York.

The first public meeting held in Convention Hall, Robert E. Lee Hotel, was presided over by Harvey F. Garrison, the versatile president of the Southern Medical Association. President Street read a valuable paper on "The Medical Profession To-day."

One of the outstanding features of the entire meeting was the Ewing Fox Howard Oration — "Jefferson Davis, Some of His Diseases and His Doctors" by Dr. W. A. Evans, Jefferson Davis Shrine, Biloxi. Whatever Dr. Evans says or writes is given marked attention. We dare say there is no one more familiar with the Honorable Jefferson Davis, Mississippi's first citizen of all time, than the esteemed Dr. Gus Evans. We are always interested in anything that pertains to Mr. Davis and this phase of his life has never before been brought out, but the essayist adds materially to the history of Mr. Davis.

For a layman, Mr. Davis had a comprehensive idea of medicine; often the slave owners practiced on the slaves because of the scarcity of doctors. Mr. Davis' family were very kind and gave their dependents every care. Read this entire article elsewhere in this journal and preserve it for future reading.

When on Mississippi's lovely coast, visit Beauvoir, Mr. Davis' last home; if perchance you know of any object or paper relating to him, forward it to Dr. Evans.

One enjoyable feature was the dinner given in the Victory Room, Foyer Parlor A, Heidelberg Hotel, to the essayists for the Victory Program and the elected officers of the Association, by Dr. Lawrence W. Long, Major, M.C., AUS, Chief of the Medical Division and acting Director of the State Selective System. The speakers were Capt. Lucius Johnson, Commander U. S. Naval Hospital, Pensacola, Florida, speaking on "Keeping the Navy Fit."

Major R. A. Bier, assistant chief of the Medical Division, Selective System, Washington, D. C., spoke on "The Future of Medicine in Selective Service." He emphasized the urgency of the need of doctors for the army and allied services. "Selective Service will look to the procurement and assignment service for advice as to your indispensability or availability in relation to your professional standing and the need of your services in the community, and will classify you accordingly." Medical students and internes will be deferred only for a year. Major Bier commended the state medical section of selective service handled by Major Lawrence W. Long. It is clearly realized that the medical profession will be one of the first groups to feel the effects of the draft and assignment to war and allied work. The effect upon civilian health will not be disregarded. The doctors and the people of Mississippi will be found responding to every call of duty.

Dr. C. L. Williams, medical director of District 4, U. S., P. H. S. at New Orleans, addressed the Victory Program on that organization's part in the present world conflict.

The last speaker was our own Major Charles B. Mitchell, Chief Medical Examiner, Induction Station, Camp Shelby. Dr. Mitchell was for twenty-odd years the college physician at Mississippi State. He inaugurated the system of a complete examination and record of every student who entered the college. Major Mitchell came of a fine family of people and his oratory is by inheritance as are his other virtues.

Prior to the public meeting, the invited guests of Major Long marched into the convention hall, led by a color guard of the Marine Corps. Just before the guests were seated on the stage *The Star Spangled Banner* was enthusiastically sung by the large crowd.

The Mississippi State Pediatric Society, Mississippi State Hospital Association and the Louisiana-Mississippi Ophthalmological and Otolarygological Society had their meetings on the day prior to the medical association.

Dr. Ralph Bowen of Houston, Texas, who read an interesting paper on "The Practical Management of the Asthmatic Child," says: "In the home the child may be affected by the pet dog or cat, or furred toy. Model building and stamp collecting may expose him to glues. The family medicine cabinet frequently contains many new drugs and cosmetics which activate an allergy. The gulf spray and filt gun contain a pyrethrum base which is offending to some ragweed suffers. Many plants within and about the home are trouble makers. Occasionally molds or mildews may be a factor. Last, but not least, don't overlook the weekend cathartic. Dr. Bowen tells of the influential

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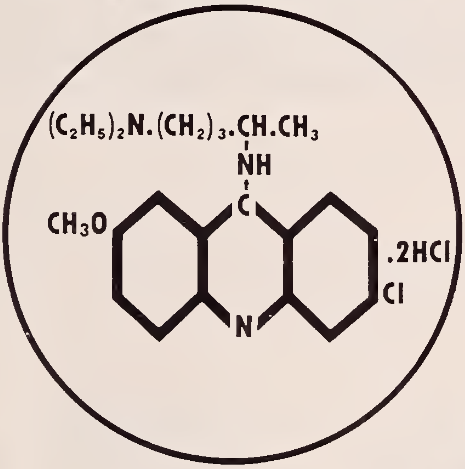

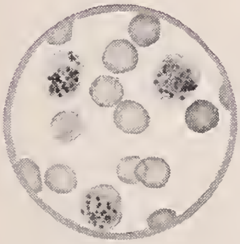

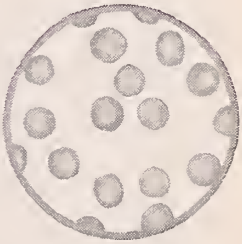

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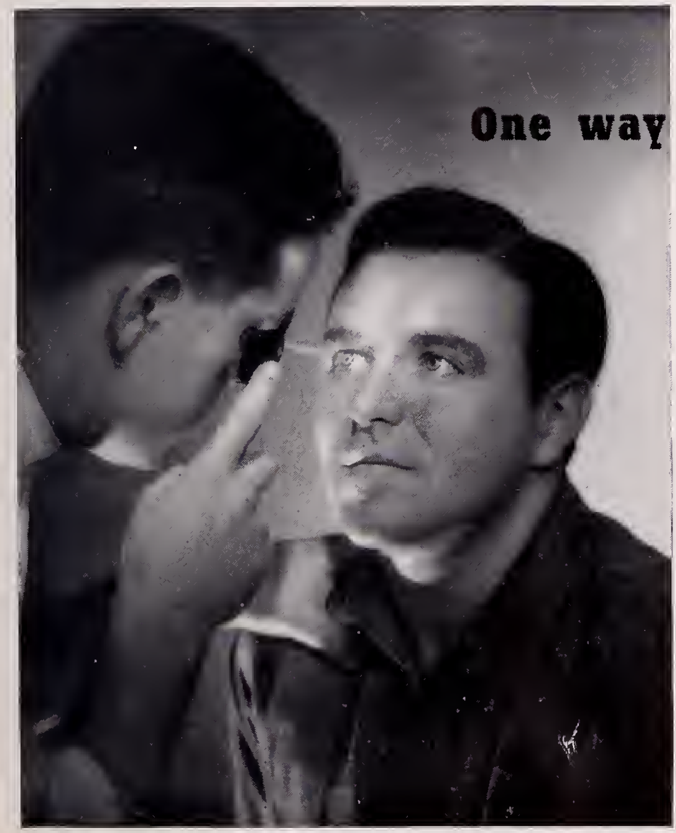

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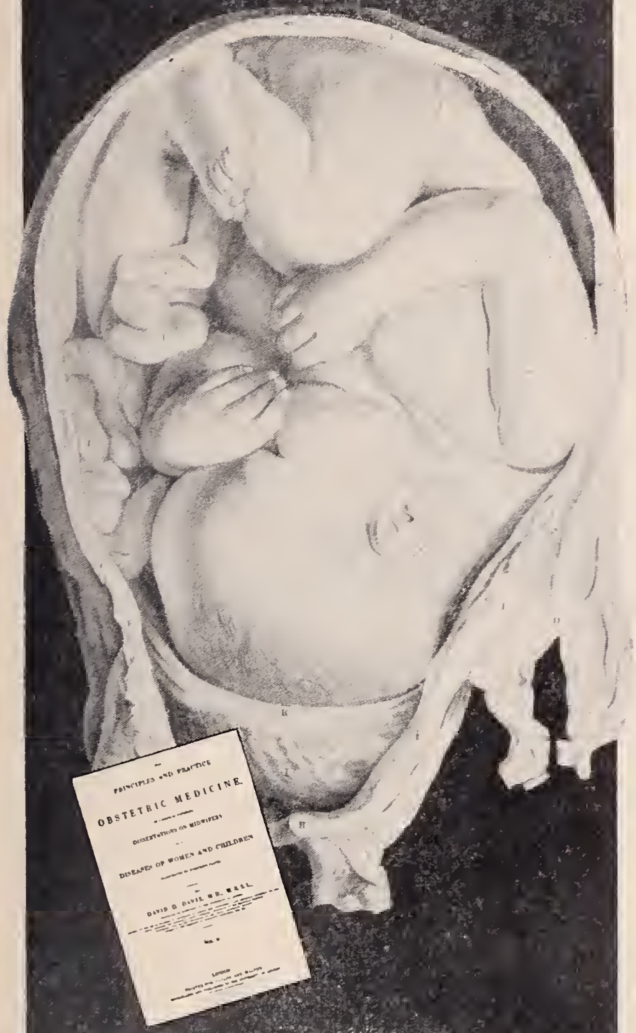

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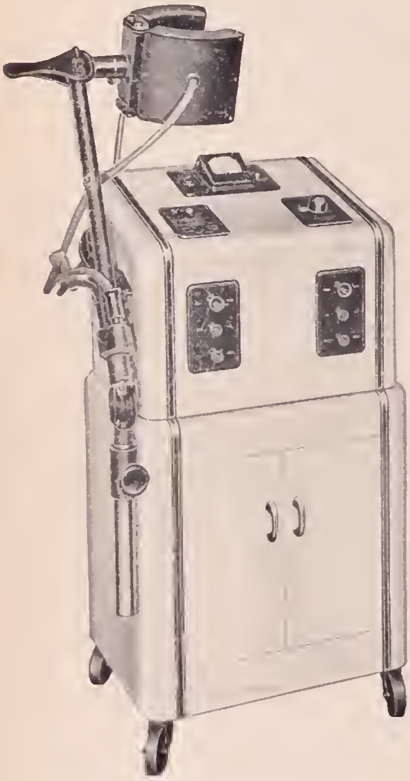

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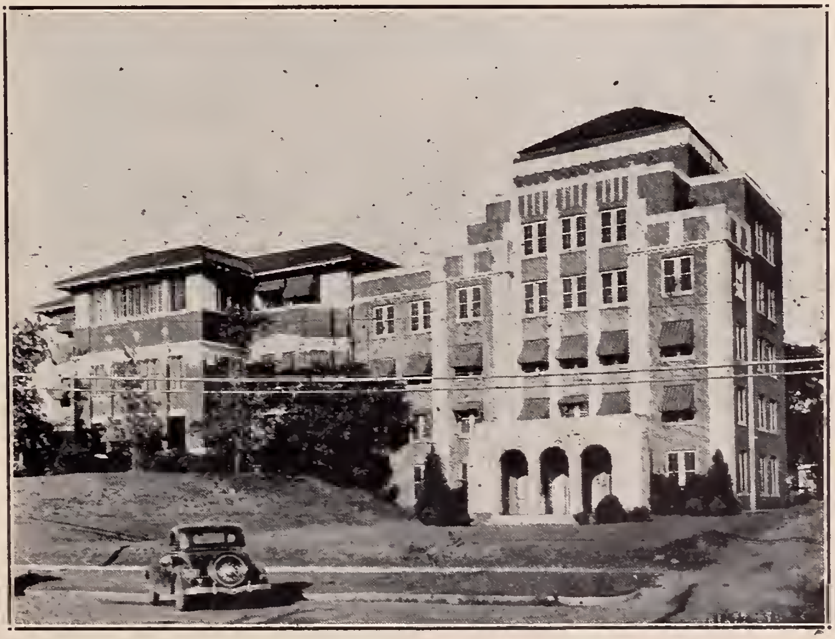

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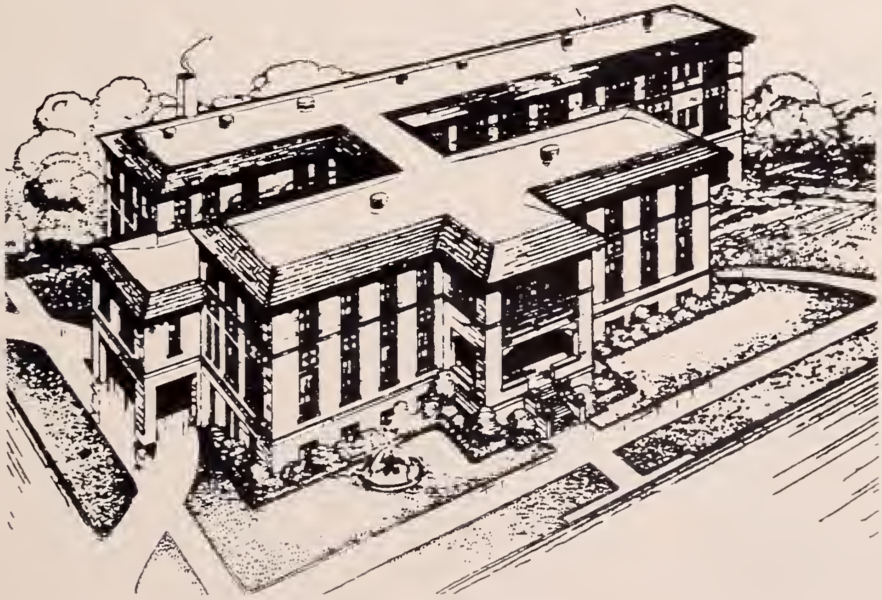

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Practical Aspects of the Common Contagious Diseases*†

PHILIP M. STIMSON, M.D.
New York City

EIGHT MILLION each year is a reasoned estimate of the number of cases that actually occur in the United States of the eight diseases—measles and rubella, chickenpox and smallpox, diphtheria and scarlet fever, mumps and whooping cough. Only a million and a half of these are reported, but the average twenty-year-old American has had slightly more than three of these infections, or one each year for every six children under the age of twenty-one in the United States. Hence these common contagious disases are of great importance from the viewpoint of frequency of occurrence and loss of time, as well as because of crippling and death. In the last four years the reported death toll from these eight diseases has averaged a total of 11,600 a year. It is impossible to estimate how many people have been crippled in vision, hearing, or other functions by an attack of one or another of these infections or by complications thereof. Hence, as practical aspects, the prevention, the diagnosis, and the treatment of these diseases and of poliomyelitis will comprise the scope of this paper. In the time allowed one can stress only the less familiar and the more controversial aspects.

PREVENTION: Of these nine infectious diseases, three are caused by bacteria, and the other six presumably by viruses. Of the bacterial diseases—diphtheria, scarlet fever, and whooping cough—active immunization is obtainable by the use of vaccines in all three diseases. For diphtheria it is universally advocated and a modified toxin is used. For scarlet fever it is widely advocated in theory, but for certain types of people only, and not as a routine public health procedure, and an unmodified toxin can be used. For whooping cough it is not yet advocated by public health authorities, but many practicing doctors advise it, especially for infants, and bacterial protein extracts are used. There is now much evidence to show that the Sauer pertussis vaccine is worth while, perhaps the most convincing of recent results being that of Garvan, who compared the incidence of whooping cough the last four years in Cleveland, where only about 10 per cent of the children have received the Sauer vaccine, with the incidence of the disease in the neighboring Shaker Heights, where possibly 75 per cent have been inoculated with this material. Use of the vaccine was started in 1934. In the four years beginning 1936, the yearly average of whooping cough in Shaker Heights showed a decrease of roughly 83 per cent (83.4) from the preceding seven-year period, while the corresponding decrease in Cleveland was but 11 (10.7) per cent. In other words, where the majority of the children had received the vaccine, whooping cough showed a more than proportional decrease. Even when vaccine fails to protect, Kendrick and others have shown that pertussis attacks occurring in vaccinated children are definitely less severe than those in control groups. The vaccine can now be obtained in strengths of 15 and 20 billion bacteria per cubic centimeter, and the total dosage should reach 100 billion. After this has been given, preferably at five months of age, some advocate a small "refresher" injection of 1 cc. each year through early childhood.

At the present time it is quite universally taken for granted that all children should be immunized against diphtheria, but attention should be called also to the need for protection of adults. In the last decade and a half since Zingher published statistics about diphtheria immunity as shown by the Schick test, including the finding that 80 per cent of young adults were immune, there has been a distinct decrease of this accidental active immunity presumably due to the lessened likelihood of inoculation by exposure, and this past year Thelander reported only 40 per cent of young adults as being immune. Correspondingly, there has been an increase in the proportion of cases of diphtheria that occur in persons twenty years old or over, so that in the last five years in New York City, one-fifth of the cases have been in adults. Certain types of men, particularly the homeless derelict, are apt not to receive adequate treatment in the first few days of their diphtheria, and the mortality for such cases is very high, 50 per cent in one small series of six.

---

*Read before the fifty-seventh annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 10-13, 1942.

†A considerable part of this paper has been published in the July, 1941, number of the Bulletin of the New York Academy of Medicine. Practically all of the last nine pages and various other items are as yet unpublished.

Two properly given injections of alum-precipitated toxoid at intervals of a month apparently have as high an immunizing power as three injections of plain toxoid, but inasmuch as the alum-precipitated toxoid exists in suspension and requires a larger caliber needle and special care for proper injection, the plain toxoid is probably the more satisfactory preparation for the average practitioner's use. The dosage under six years of age is 0.5 cc. for the first injection and then 1.0 cc. for the other two at intervals of three or four weeks; while after that age the first dose should be only 0.25 cc. For children who receive this immunization in the first year or two of life, a further small injection of 0.1 or 0.2 cc. of toxoid is advocated at the time of entering school at six years of age by the New York City Department of Health.

Schick tests done in the presence of some other acute disease than diphtheria, such as in patients suffering from pneumonia, measles, or poliomyelitis, may give a bullous reaction which Fischer and his co-workers have recently shown does not necessarily mean susceptibility to diphtheria. In some cases a repetition of the Schick test after the patient has recovered from his acute infection has given negative results. Apparently bullous Schick tests are not found in normal healthy children. Incidentally, the Schick relapse rate is "three times higher in children who have had diphtheria than in children who have been actively immunized."

For scarlet fever a properly performed and accurately judged Dick test is evidence of immunity when negative. Klein's work on the immunization of affiliated nurses at the Willard Parker Hospital has been most illuminating on this point. Prior to coming to the hospital for their three months' course of training in the care of contagious diseases, the nurses are supposed to have negative Dick tests, but up to January, 1937, 2.9 per cent of over a thousand of these nurses contracted scarlet fever during their stay. The hospital thereafter undertook to Dick test each nurse on arrival, and since then no case of scarlet fever has occurred among 1348 nurses known to be Dick negative. During this period, eleven cases have occurred among nurses and interns who were not Dick negative.

In general, because of the prevailing mildness of scarlet fever, because of the large amount of toxin necessary to get a durable immunity, and because of the frequency of unpleasant reactions to the injections, immunization with scarlet fever toxin is not usually recommended for all children, but rather for children in such institutions as orphan asylums where scarlet fever occurs frequently; also for members of a family where there is scarlet fever, and for doctors and nurses in positions of special exposure.

Passive immunization by means of the administration of serum is well-established for two of these three bacterial diseases, diphtheria and scarlet fever, and as for the third, whooping cough, Bradford, McGuinness and their co-workers have recently stated that convalescent blood serum in doses of 10 to 20 cc., when injected into exposed infants, confers a certain degree of protection for a limited period of possibly three weeks, as does also hyperimmune serum. This protection is particularly important since infants up to five months of age do not respond well to active immunization procedures, nor do young infants inherit an immunity to whooping cough. In fact, at the present time this disease kills more babies than diphtheria, scarlet fever, and measles combined, and the newly established protective value of immune serum is of great importance.

The other six of these contagious diseases, to-wit, measles, rubella, chickenpox, smallpox, mumps, and poliomyelitis, are all presumably due to infection with specific viruses, and as such have several factors in common.

Factor I: Virus diseases in man are for the most part more easily communicable than the bacterial diseases, of the latter whooping cough being a notable exception.

Factor II: Viruses cause diseases which as a rule are followed by a lasting immunity, the immunity probably being both cellular and humoral. Herpes of the lips and influenza are probably notable exceptions to this. The late Hans Zinsser has noted that in some of the virus diseases, especially measles and poliomyelitis, the initial immunity may perhaps be constantly reinforced by successive exposures.

Factor III: As to chemotherapy, according to Carey and others, there has been sufficient evidence to conclude that no sulfonamide compound has yet been found which has any effect on infections caused by a filterable virus. Recent exceptions found to this statement are trachoma and lymphogranuloma inguinale.

Factor IV: Passive immunization with serum might be expected to have some value in those virus diseases in which the virus is generally distributed by the circulation. This has been proved to be the case in measles and apparently also in mumps, but not yet in chickenpox and smallpox, although both are quite certainly also infections in which the virus circulates in the blood. On the other hand, to quote Zinsser again, one cannot expect much prophylactic value in infections such as rabies, encephalitic processes, and poliomyelitis in which the virus travels centripetally along nerve trunks. Virus infections being intracellular processes, serum injection after the virus has penetrated into susceptible cells, has not proved of preventive or therapeutic value.

Factor V: Active immunization against these and other virus diseases of man has not as yet been obtained by vaccination with dead or inactive material. Zinsser called this a field still in its infancy. It is of course well known that the virus used for vaccination against smallpox for the past century and a half is an active one modified by passage through calf or, more recently, through chick embryo tissue.

Following such vaccination, no matter how carried out, the virus of vaccinia is distributed generally throughout the body, going from the site of vaccination to the nearer lymph nodes, whence it enters the circulation. Ordinarily it does not produce any lesions in the tissues nor any symptoms except fever and usually some inflammation of the regional lymph nodes. In exceptional cases the virus can cause an encephalitis with tissue change and corresponding symptoms. The secretions of the nasopharynx have been shown to contain virus on the fourth and fifth days after vaccination; therefore, a recently vaccinated person by mere exposure can conceivably cross-infect with vaccinia a susceptible person, and by skin to skin contact can certainly infect such unusually susceptible individuals as children with chronic skin diseases. Even in normal individuals, a routine vaccination may result in a generalized vaccinia but where there is a preëxisting skin trouble, as in eczematous babies, vaccination, intentionally or accidentally accomplished, may cause an unusually dangerous condition known as eczema vaccinata, frequently terminating fatally. It is well, therefore, not only to postpone vaccinating children with chronic skin diseases until the eruption has been thoroughly cured, but it is further highly desirable to isolate eczematous children from recently vaccinated persons.

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Before leaving the subject of immunization, mention will be made of two research activities that promise further advances in the prevention of disease. First, Rake and Shaffer, Stokes and O'Neil have recently produced a measles vaccine that is prepared by growing the virus on the chorioallantoic membrane of a developing chick embryo, apparently thereby modifying its virulence for mankind. Experimental inoculation of children with this vaccine produced little or no illness but at the same time stimulated the production of at least partial protection against the unmodified virus. This work is of great promise.

Second, Gladys Dick has described a preparation of scarlatinal toxin that could be given in pill form by mouth for immunization. At the present time the material is available for research purposes only.

The etiological and clinical manifestations of these various diseases are all so well-known that at this time it would seem well to call attention only to a few points of special concern.

Unlike scarlet fever, measles is not spread by its complications, and it need not be isolated after five days from the appearance of the rash. The blood of a person incubating measles, if used for transfusion, can transmit the disease to the recipient at least during the latter half of the incubation period, perhaps even earlier. It is to be hoped that none of the hundreds of people who are donating blood plasma to be sent to army hospitals is incubating that disease. The usual sterility tests do not guard against that, at present, remote possibility. However, in *pooled* plasma there are probably enough antibodies to neutralize any possible viruses present in a single blood.

In little children measles is frequently confused with rubella and with roseola infantum. The probability in uncertain cases is in favor of a diagnosis of roseola. It should be remembered that rubella (often popularly called German measles) is rare except in the presence of an epidemic, and isolated cases, particularly in little children, are quite uncommon. In young adults, as in army camps, epidemics of rubella are not uncommon, yet there is still much confusion in the minds of many medical officers about the existence of rubella as a definite entity. Of 63 cases of measles recently reported from one army base hospital only 3 were found to be authentic, the other 60 having been rubella. That a similar mistake was made in the United States Army in 1918 is shown by statistics which reveal that 82 soldiers were recorded as dying of German measles, pretty much an impossibility. The clinical manifestations of measles are too well known to need description here.

In rubella the rash appears all over the first day, lasts only two or three days, and consists of fine pinkish macules which tend to run together; there is little if any fever, and there rarely are any complications, but swelling of the suboccipital or upper lateral cervical lymph nodes usually occurs with the eruption, though it may precede or follow it. There rarely is any appreciable catarrh. On the other hand, roseola infantum almost always occurs in two- and three-year olds. Its manifestations are characterized by about three days of unexplainable fever after which there is usually a fairly rapid return of the temperature to normal, followed by the development of a morbilliform or measles-like eruption, which appears first on the body and sometimes spreads to the extremities and the sides of the face. There are no Koplik spots and no appreciable conjunctivitis, coryza, or cough. The rash lasts only a day or two, and is not followed by pigmentation. The blood shows a decrease in the number of granulocytes. Except for its preliminary fever, the disease is very much like modified measles. However, it is not a result of exposure to measles, and usually occurs in sporadic cases without known causative or subsequent cases.

About chickenpox, several instances have been noted recently in which a case of herpes zoster has been followed 14 to 16 days later by one or more cases of typical chickenpox. It is very unusual, however, to see the reverse, that is, herpes zoster follow a case of chickenpox. A connection between these diseases has long been suspected, but the etiological relationship is still unproved.

For a rapid diagnosis of diphtheria there has been quite a little in the literature about the use of a 2 per cent aqueous solution of potassium tellurite. The liquid is used for swabbing suspicious exudates, and in 15 to 30 minutes a black discoloration of the false membrane and the appearance of the odor of garlic are said to indicate a diphtheritic process. However, false positives appear on any tongue and occasionally in non-diphtheritic lesions, so that any positive test requires bacteriological or clinical confirmation. A negative test suggests but does not prove the absence of diphtheria bacilli. In general the tellurite test is hardly worth doing.

A further point in the differential diagnosis of diphtheria may be mentioned. Diphtheria does not cause erosion or ulceration, but rather a piling up of necrotic confluent material on an inflamed surface. When erosion can be detected, one should suspect syphilis, if the lesion is comparatively painless; or, if painful, an angina due to the Vincent microörganisms; and if the ulcerative pharyngitis is accompanied by much prostration, agranulocytosis should be suspected.

For the diagnosis of diphtheritic myocardial involvement and its after care, the electrocardiogram is of great value. Besides at times revealing delay in conduction time, an entity usually accompanied by such other clinical manifestations of toxicity that an electrical recording is not necessary for diagnosing heart trouble, the electrocardiogram may reveal only an inversion of the T wave. Burkhardt has shown that this is enough indication for keeping a diphtheria patient in bed until the abnormality in the tracing has cleared up, sometimes as long as two months. A diphtheritic myocarditis that does not terminate fatally does not result in a crippled heart, however, but goes on to eventual complete recovery.

Mumps is a far more important disease from the public health and military standpoints than is generally understood. Throughout the United States Army in the World War one out of every twenty white men and one out of every six colored men had an attack of the disease; and in four camps, all in the far South, over 20 per cent of the soldiers at one time or another during their stay at the camp had mumps. The army lost 3,884,147 hospital days because of this disease, a number exceeded only slightly by that of the days lost to gonorrhea, and equivalent to a division of 27,000 men being out of service nearly five months.

Apparently the portal of entry for the specific filterable virus of mumps is by the nose and throat, following which there is a general infection, probably of the blood stream rather than a strictly localized disease. According to Gordon, following the general infection the virus maintains a marked predilection for glandular structure, of which the parotid glands are most often the first affected. However, the other manifestations of mumps, such as orchitis, pancreatitis, and encephalitis, may occur as independent processes preceding involvement of the salivary glands, accompanying it, following it, or occurring without such involvement, and these manifestations should be considered part of the disease rather than complications.

Those lesions which are accompanied by pressure, such as orchitis hemmed in by the tunica albuginea, and encephalitis hemmed in by the cranium, are associated with the most fever, and also are most definitely helped by the relief of pressure. Wesselhoeft strongly advocates early incision of the tunica albuginea in marked cases of orchitis to relieve the intense pain, to shorten the duration of the swelling, and to diminish the extent of atrophy. Incidentally, sterility from mumps is exceedingly rare because only a small proportion of cases of orchitis are bilateral, 16 per cent according to one estimate, and even then it is rare for both glands to lose all function.

Encephalitis is probably far more common in mumps than has been suspected before the last year or two. It may be latent, consisting only of an infiltration of lymphocytes into the spinal fluid. as disclosed by a lumbar puncture, without any clinical manifestations whatsoever to suggest the encephalitis. On the other hand, there may be mild evidences of headache and stiff neck or more definite manifestations of meningeal involvement, with or without those indicating an encephalitis. Serious cases are quite exceptional. The usual duration of symptoms and signs of a mumps encephalitis is not more than three or four days and sequelae are quite rare. Incidentally, the encephalitides following which such sequelae as character change are most common, are the epidemic type, those complicating measles and whooping cough, and that due to lead poisoning.

TREATMENT: In presenting a discussion of advances that have been made in recent years in the treatment of various of these contagious diseases, one must first mention the difficulties involved in evaluating any new therapeutic remedy or procedure. Most of these diseases are so variable in their clinical manifestations and courses, not only from year to year but from case to case, that unless a remedy is tried on a large series of patients during a number of different years, the results being compared with a similar series of coincident control cases, one can only conjecture whether the remedy is beneficial or not.

Many factors can contribute to the cure of the patient besides a particular drug or serum. The violence of an epidemic, the kind of weather at the time of the epidemic, the coincidence of other infections, particularly upper respiratory infections, the hospital facilities available and particularly the possibilities of adequate individual isolation, and the skillfulness of medical and nursing attention generally, all provide factors of variability. For instance, in the last ten years at the Willard Parker Hospital the actual methods of treating whooping cough have varied little if at all from year to year. Yet in this decade the annual mortality of whooping cough patients at the hospital has ranged from 8.8 per cent in 1931 to 2.1 per cent in 1939, a variation of over four to one.

As to the management of contagious diseases. in recent years it has become almost universal in hospitals specializing in these maladies to apply individual isolation to each case of each disease. It has been shown that by protecting patients from the illnesses, and complications which others may be suffering in the same hospital or the same ward. cross infections with second diseases may be cut down, complications due to secondary infections may be diminished, and the average length of stay in the hospital may be shortened. On the other hand. when there is overcrowding and a shortage of nurses, then isolation technique must be given up and there is certain to be an increase in cross infections and in complications.

Isolation technique is founded on the theory that infection is not air-borne, other than by cough droplets, and then only for perhaps five feet. But it has been shown by several workers in England that streptococci can be isolated from the dust of a room 24 hours after a patient has been removed from that room, and it is quite generally believed that both chickenpox and smallpox may be definitely air-borne, perhaps also measles and whooping cough.

Nevertheless, aseptic technique, founded on the principle that contagion is spread by direct or indirect contact only, remains the chief means by which hospital cross-infections can be restricted. Much work has been done by several groups of investigators, such as McKhann, Steeger, and Long at the Children's Hospital in Boston, on the use of the ultraviolet ray in the control of hospital infections, with very encouraging results. The injection of parental blood serum into every child on admission into a general pediatric ward has been advocated by Barbenberg and his co-workers, while Fischer and Raue have similarly used placental extracts. It is known that pooled placental extracts will neutralize diphtheria toxin and poliomyelitis virus, will blanche scarlet fever rashes and protect against measles; and adult sera, particularly if pooled, will probably do as much. However, chickenpox continues to be the bane of crowded hospitals. Although almost never a menace to life in itself, it can prove a dangerously complicating factor when there is sepsis or marasmus, and there is no preventive for this extremely contagious disease.

Chickenpox is now usually treated with special emphasis on cleanliness. Patients are given careful daily baths without rubbing, and are blotted with towels rather than wiped, so as not to break the blebs of the young lesions. Any irritation of the skin is carefully avoided, and from any patient with chickenpox, plaster casts and adhesive plaster should be removed promptly so as to avoid pressure on the skin and possible gangrenous areas or a confluent eruption.

Of the other exanthemata, scarlet fever is particularly variable so that any therapeutic agent is difficult to evaluate. Whereas in recent years virulent forms of the disease are said to have occurred in the Balkans, with a mortality of 10 to 25 per cent, 1,365 cases of this malady were discharged in 1941 from the Willard Parker Hospital without a single death, and for the past several years in New York City the mortality for this disease has been but a small fraction of one per cent. Two valuable therapeutic sera are at our disposal for the treatment of toxic cases. Human convalescent serum given intravenously in doses of 40 to 100 cc. is remarkably effective in neutralizing the toxic manifestations of the disease within 24 to 48 hours' time, and practically invariably without unpleasant reactions. Of horse sera, two manufacturers have recently made preparations of such refinement that the incidence of serum reactions following their administration has been cut well below 10 per cent. Therapeutic results are comparable to those obtained with human serum, and the cost is very much lower. While chemotherapy has as yet proved of little if any value in the treatment of scarlet fever itself, the administration of sulfanilamide during the acute stages has in some series seemed to lessen materially the incidence of complications, but this result has not been obtained universally.

The work of Allison and Brown in England has shown that when cases of scarlet fever are exposed to each other, the patients are apt to infect each other with additional strains of the scarlatinal streptococcus, and most of the complications that occur in the third week or later are due to these cross infections. This may explain why sulfanilamide, which is not known to have effect against the streptococcus of scarlet fever, may in some instances fail to prevent complications, while in other situations, perhaps where the secondary invaders are other microörganisms, it may prove quite protective or therapeutically beneficial.

In the treatment of measles there have been interesting developments. Kohn and his associates have given large doses of convalescent serum, 40 to 50 cc., intravenously, to patients developing measles but still in the preëruptive stage, and have apparently materially lessened the severity of the period of eruption. This may prove of considerable importance for patients already suffering from some such condition as pneumonia, when the complication of an oncoming measles is discovered. This use of serum is the only instance in the virus diseases of man wherein a therapeutic serum, administered after the onset of evidences of the virus infection, is of any apparent value. Even so, in these measles cases the serum must be given at least 24 hours before the appearance of the rash to accomplish even partial modification of the oncoming disease.

As sometimes is the case in scarlet fever, measles patients frequently may be protected from the complications due to secondary infections with streptococci by the administration of sulfanilamide, a procedure which may prove useful in hospital services, but which probably will not become generally used in private practice because of the very low incidence of complications of measles in private homes, particularly of the better class. The pneumonias which complicate measles have proved in a large percentage of cases to be responsive to chemotherapy. Most of these pneumonias are due either to streptococci or pneumococci or to mixed infections. In some, the causative factor is thought to be some kind of filterable virus because, among other reasons, pneumonias are occasionally found complicating measles in which no pneumococci can be found nor a predominating number of streptococci, and for which the sulfonamides do not appear to be beneficial.

Whooping cough pneumonias are given such specific treatment as is indicated from the results of the cultures. Pneumococci are frequently found, and specific serotherapy together with a sulphonamide is helpful for these cases. However, many of the pneumonias in whooping cough are due to the pertussis bacilli themselves, perhaps others to filterable viruses, and in general chemotherapy has not proved as efficacious in the pneumonias of whooping cough as in those of measles.

Habel and Lucchesi of Philadelphia have shown that the convulsions of whooping cough which have so frequently proved fatal in infancy, are usually due to an anoxemia of the brain, secondary to the cyanosis caused by the paroxysms and by bronchopneumonia. Treatment with oxygen and transfusions has in their hands materially lowered the mortality following the convulsions of whooping cough.

Various vaccines have been recommended for the treatment of early whooping cough cases. The detoxified pertussis antigen in five to six doses given one a day or on alternate days, has seemed to mitigate the ensuing disease in some series. but not in others.

Human hyperimmune serum—that is, the serum of adults who have had whooping cough and who also have received injections of whooping cough vaccine—has been shown by McGuinnes and others to have value in the treatment of this disease.

As to diphtheria. the mainstay of treatment continues to be the early administration of adequate doses of diphtheria antitoxin. An injection of not less than 10.000 units intramuscularly is given for the mildest cases. and it is believed at Willard Parker that doses larger than 25,000 units intravenously and 25,000 units intramuscularly are never necessary. Other hospitals, particularly abroad, report that they occasionally give over 100,000 units to some patients.

Following the work of Schwentker and Noel at Johns Hopkins, toxic cases of diphtheria are usually given intravenously considerable quantities of 5 or 10 per cent solutions of glucose. The liver's ability to store glycogen is materially damaged by diphtheria toxin, and glucose by vein has seemed of marked benefit in clearing up the toxic manifestations. Cases of laryngeal diphtheria are usually treated so successfully by aspiration that intubation for diphtheria is now a comparative rarity. Diphtheria itself is becoming an uncommon disease, and for several years there have been admitted to the diphtheria service more patients suffering from streptococcus or staphylococcus laryngotracheobronchitis than from diphtheria.

The treatment of these non-diphtheritic laryngeal cases has changed somewhat in the past two or three years. It was formerly believed that in the presence of a severe streptococcus infection, operative interference with aspiration, intubation, or tracheotomy was contraindicated because there was little or no exudate to remove by suction, but on the other hand there was extensive inflammation, edema, and swelling of the mucous membranes which were aggravated by any mechanical interference. In the past year or two a number of these cases have been treated in comparatively early stages with tracheotomy as the only surgical procedure, and something over 80 per cent of the cases severe enough to require an operation have been saved.

Some doctors believe that if a person is markedly sensitive to horse serum, as shown by positive intradermal and eye tests, he cannot safely be given therapeutic doses of serum. The case is probably very rare indeed to which serum cannot be administered if proper precautions are taken. An unemployed negro longshoreman was recently admitted to the Willard Parker Hospital with an extensive pharyngeal diphtheria of three days' duration. His intradermal and eye tests for serum sensitization were both positive. A tourniquet was placed loosely high around one thigh and 0.1 cc. of serum was injected subcutaneously into the mid-thigh, accompanied by 3 minims of adrenalin. Each half hour a larger dose was given until at the end of nine doses a total of 35,000 units had been administered, part subcutaneously and part intramuscularly, each injection being accompanied by the administration of 3 minims of adrenalin, and both legs being eventually used. There was no immediate reaction to the serum, and the following day the diphtheritic process had largely disappeared.

Incidentally, for a patient's comfort, the serum should not be given in the outer or lateral aspect of the thigh, the fascia lata preventing swelling as a result of the injection, and causing the patient undue discomfort. Most patients prefer to receive a large amount of serum in the gluteal muscles.

I would like to use the rest of my time in discussing poliomyelitis.

While the virus in scattered instances can be found in the secretions of the nose and throat, it is found more commonly in the stools; and in the presence of an epidemic of the disease, it can be identified even in the stools of apparently healthy persons. It has been detected more readily in the stools of cases of the usually unrecognized abortive type than in paralytic patients. Virus can exist in large amounts in sewage, in which it can be transmitted at least an eighth of a mile.

As Paul has said, we do not know how the virus enters the body, nor how to prevent its entering. Because the nasal bulbs are so seldom involved, more and more students of the disease are coming to believe that a nasopharyngeal portal of entry is unusual rather than the rule, and that the disease is perhaps transmitted by a number of channels, as by direct contact with an infected person or by such other means as infected food or water. Recently Sabin, and also Paul and Trask have definitely isolated the virus from flies collected in epidemic areas. Thus gradually, bit by bit, light is being turned on the dark mysteries of the spread of this disease.

Reasoning from what little information we have, one may be permitted to make certain definite suggestions for measures to be taken in times when poliomyelitis has appeared in a community, in the hope of restricting the number and severity of cases of this dreadful disease. Since the virus can be readily identified in human stools and in sewage it is to be presumed that there is definite danger in swimming in rivers or other bodies of water that might be contaminated, particularly if the water is allowed to enter the nose and throat, or is swallowed.

Any injury to the mucous membranes of the nose and throat may open a gateway to infection. A definite relationship has frequently been observed between tonsil and adenoid operations done at the time of a poliomyelitis epidemic and subsequent severe, even fatal, cases of the disease. A child may be harboring the virus at the time of an operation, or, after the operation, with an area of raw tissue in the throat, he may pick up an infection which finds progress easy. When poliomyelitis is about, the barrier to infection of an intact and healthy mucous membrane should be preserved.

It has also been apparently demonstrated that if a boy has been infected and is incubating the disease, if he gets physically exhausted or chilled, or both, his oncoming poliomyelitis will be much more severe. Furthermore, many clinicians who have seen much of this disease are convinced that in the presence of an epidemic any slight illness should be treated with exaggerated respect, and the patient kept as quiet as possible and comfortably warm in bed several days longer than the trivial indisposition might otherwise warrant. It is known that this disease—occasionally so terrible in its manifestations—can very often resemble a slight head cold, a slight attack of indigestion, or a trivial headache, and some of us are convinced that the further course of the infection can at times be materially affected by the activity of the patient during the latter part of the incubation period and also during the hours of even very slight symptoms.

Finally, in the prevention of the spread of the disease, certain common sense health principles are always applicable to hold down any epidemic, such as the avoidance of crowds, of close personal contacts, of eating in public places, and of unnecessary exposures to flies, mosquitoes, and other insects.

Thus, to summarize these comments on how to prevent infection with infantile paralysis, one might say categorically: In the presence of an epidemic of poliomyelitis:

1. Keep the head out of water possibly contaminated with human excreta.
2. Avoid anything that might injure the intact mucous membranes of the nose and throat; particularly avoid tonsil and adenoid operations.
3. Avoid chilling or physical exhaustion.
4. Treat any illness, no matter how slight, as potential poliomyelitis and insist on prolonged bedrest.

This previous discussion naturally leads up to the recognition and first-aid treatment of a case with manifestations marked enough to cause at least suspicion of the presence of this much dreaded disease. The typical diagnosable case of poliomyelitis is apt to begin with fever, headache, vomiting, crankiness, various aches and pains, and a desire to be left alone. Some stiffness may be found in the back of the neck, and in the upper part of the spinal column, and all this usually appears anywhere from one to four or more days before any paralysis is found. During this period, there can always be the comforting thought that of every hundred patients who have enough early manifestations to be recognizable as constituting a case of poliomyelitis, yet who still are in the stage before paralysis appears, only 20 or 30 per cent will, if kept properly quiet, go on to develop any paralysis at all. Most will escape even a temporary muscular weakness.

Naturally the first things to do when such symptoms appear are to put the patient to bed in a quiet room and bar all visitors. Rest is extremely important so the patient should be handled or disturbed as little as possible. To confirm the diagnosis a lumbar puncture is done and the spinal fluid examined. This is naturally more easily done in a hospital but can be done quite readily in a home. But what about moving the patient to a hospital? There are strong arguments both for and against, so each situation must be judged separately. In favor of moving a patient to a hospital is the greater ease of properly caring for the patient there, the availability of such emergency facilities as a respirator, the presence of a trained housestaff and nurses familiar with the disease, the favorable influence on the patient of associating with other victims of the same affliction, and the minor point of convenience to the doctor who has all his patients under one roof.

On the other hand, unless there are symptoms that clearly indicate hospital treatment, such as difficulty in breathing, or obvious marked prostration and toxicity, it might very well be better to have the patient remain quietly at home on judicious home care than to take him on a strenuous trip by car or train to a distant hospital even though more skillful hands and better equipment might be available there. Being propped upon the back seat of an automobile and hurried for miles over rough country roads with one's arms and legs flopping around does no good to anybody coming down with this disease. It probably does a lot of harm. If a patient must be moved he should be on a stretcher, well wrapped up, with the arms and legs comfortable, or if already showing evidences of weakness, perhaps with the extremities splinted to prevent overstretching an affected muscle and possible permanent damage resulting therefrom. Unfortunately hospitals have no magic cure for this disease. For treatment as for prevention there is no serum, drug or other chemical that is generally recommended, nor is any used in most contagious disease hospitals. For the very sick cases and those with difficulty in swallowing or in breathing, hospital care is practically essential, but otherwise hospital staffs just put the ordinary cases to bed and keep them as quiet as possible the first few days. In many homes this can be done fully as well without subjecting the patient to a tiring and possibly damaging trip.

After the first few days, if weakness has appeared in any muscle or in groups of muscles, all doctors agree that quiet and rest is still important and that strain and pull must not be exerted on any involved part—nor should the patient or any of his muscles be allowed to tire and become fatigued. Opinions and methods differ on how best to accomplish these ends. Some advocate immobilization of arms or legs with splints, some choose plaster casts, some use pillows and sandbags. Still others, among whom the speaker is included, strongly prefer the Sister Kenny treatment.

It is granted that it is very difficult to determine just what is the best procedure. Poliomyelitis is always a very variable disease indeed—ranging as has been said earlier from what seems to be only a trivial headache with slight indigestion to the fulminating cases that kill in less than a day. Indeed the very mild infections without paralysis and without any immediate diagnostic manifestations are almost certainly much more numerous in an epidemic than are the cases that develop paralysis. And of the mild paralytic cases some will recover completely without any treatment at all. Therefore, it is very difficult to evaluate any particular method of management or treatment. One needs many cases in each of several epidemics, some treated by the procedure under trial, and parallel cases—perhaps every other case—treated by other and more standard methods, to prove by comparison whether the new procedure does produce less paralysis or not.

So, a few words might be said about the Sister Kenny treatment. As many of my hearers may know, Sister Kenny is an Australian nurse who, about thirty years ago, when doing public health work in the wilds of Australia, found herself confronted by a number of children recently stricken with infantile paralysis for whom no medical care was available, including no splints. Sister Kenny, a woman not only of energy and intelligence, but also with rare powers of observation and of medicinal ability, noted that these unfortunates had many muscles that were painful and tight and hard, that is, were spastic, so she set out to relieve the spasm and found presently that she could best do this with the frequent application of hot compresses. Then when the muscles were properly relaxed she found that the children needed to be educated to use these involved muscles as they ought to be used, and not to use other muscles to do the work of those which, because of spasticity, they hadn't been able to use. This required careful study of each individual patient and in the course of the years Sister Kenny developed a remarkable knowledge of muscle function, and her own carefully worked out technic for treating poliomyelitis cases. This technic includes no immobilization with splints or casts but complete bed rest in the physiological position used when standing, nearly continuous hot compresses to any muscles showing spasm or contracture, then presently individual muscle re-education accomplished first by gentle passive motion, then active motion, but both kept short of pain or fatigue. The re-educational factor is very important.

Treated by this technic, Sister Kenny's patients were presently reported as recovering more rapidly and with less residual paralysis than did other patients treated with what have been the standard methods of prolonged immobilization, then massage and exercises in baths, etc.

In recent months Sister Kenny's technic has had a trial in Minneapolis on 50 to 75 cases, and more recently in New York City it has been tried on a group of about 25 cases, but in neither instance have there been alternate case controls so that there is nothing positive that can be said about the sparing of paralysis. However, there is the clear impression that when the entire technic including after-care and muscle re-education is very carefully followed, the patients so treated are more comfortable, the muscles themselves are in better conditions of relaxation and nutrition, and no harm has been done the patients. Only time will tell whether or not the patients really have less paralysis, as is also believed.

Difficult as it may be to judge between the relative merits and results of this and other methods of early management, nevertheless doctors all agree that much harm can be done by faulty treatment due to ignorance of the principles involved. Every patient, whether in a hospital or at home, should be closely supervised by some doctor who is thoroughly conversant with the dangers of mismanagement as well as with the principles of proper care. The Kenny treatment has definite dangers, and ought not to be undertaken by anyone without special knowledge and training. It is not merely a question of no splints, many hot towels, and exercise. Irreparable damage can be done by the improper handling of affected limbs, and lifelong crippling can result which skilled care could have avoided. The National Foundation for Infantile Paralysis has officially approved the further study of the Kenny treatment and in the next months will endeavor to spread the knowledge of the technic so essential to the proper carrying out of the treatment. Let us all greatly hope that it proves to be good.

In summary, we have noted how serums are curative for some bacterial diseases, and chemicals are for many. Perrin Long has pointed out that 75 per cent of bacterial infections now respond to chemotherapy, notable exceptions being whooping cough and diphtheria, typhoid fever, tuberculosis, and common colds. It is greatly to be hoped and rather confidently to be expected, that for these remaining bacterial diseases the next few years will see the discovery of specific remedies. The virus diseases of man are still without either a specific curative serum or, with one or two minor exceptions, a therapeutic chemical. Perhaps for these infections also therapeutic agents of great efficiency may be revealed.

Indications for Splenectomy*

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DURING THE LAST five or ten years sufficient data have accumulated regarding the benefit derived from splenectomy to allow at least a fairly accurate approximation of results following removal of the spleen. Previous to this splenectomy was performed occasionally for disease such as leukemia, polycythemia, etc., in which results were naturally very poor. We can now definitely state that in two or three diseases, including purpura hemorrhagica, acute hemolytic anemia, etc., the results following splenectomy are sufficiently satisfactory to advise removal of the spleen, particularly when certain precautions are taken in choice of patients. In a few other diseases, splenic anemia (Banti's disease), Gaucher's disease, and cirrhosis of the liver, splenectomy may be indicated, and may be followed by satisfactory results.

PURPURA HEMORRHAGICA (THROMBOCYTOPENIC PURPURA). It is very essential that the two types of purpura be differentiated since splenectomy in one (thrombocytopenic purpura) yields good results, but is followed by no improvement in the other type (symptomatic purpura).

In thrombocytopenic purpura perhaps one of the first manifestations to appear are ecchymotic patches under the skin and mucous membranes. There is a tendency toward bleeding from the gums; minor injuries frequently bleed profusely. Petechiae are common. As the disease becomes advanced the hemorrhages usually increase and the anemia becomes more severe. An important diagnostic feature of the disease is the appearance of petechiae on the skin of the arm when its venous supply is blocked by a tourniquet.

Laboratory data are particularly helpful in the diagnosis. One of the most important features is a decrease in the platelet count to levels usually below 100,000 per c.mm. The patient's clotting time is unchanged but the bleeding time is prolonged frequently for hours. The blood collected in a test tube forms a clot, but the clot does not retract. The severity of anemia varies considerably, depending upon the duration of the disease, etc. The above findings are contrasted in hemophilia in which the platelet count and bleeding time are normal but the clotting time delayed. Bone marrow studies may be very helpful, particularly in regard to the prognostic value of splenectomy. The bone marrow smears will show a myeloid, erythroid and megakaryocytic hyperplasia, the latter of which is the most important from the prognostic standpoint. Limarzi and Schleicher[1] emphasize the fact that the megakaryocytes are increased in number in the bone marrow, but do not properly reach maturity. The white blood count is normal; if it is reduced, the diagnosis of a typical leukemia or an aplastic anemia should be suspected.

Splenectomy in at least 80 per cent of the cases is remarkably effective in relieving the hemorrhage almost immediately upon removal of the spleen. The platelet count usually increases sharply following operation, but may recede sometime later to a count much below normal. This lowered count after operation, however, has no influence on the results of the operation.

At times it may be difficult to decide whether or not operation is advisable, largely because symptoms are mild. Naturally in this group of patients the operative mortality rate will be extremely low. The spleen is only slightly enlarged in thrombocytopenic purpura and the good condition of the patient adds another important factor in the low mortality rate. The physician and patient must then decide between themselves whether or not symptoms are sufficient to justify operation. There will also be considerable dispute as to the time of operation when patients are admitted in the presence of an acute hemorrhage. Regardless of whether or not immediate operation is contemplated, blood must be secured and administered as soon as possible. In general if a couple of transfusions stop the hemorrhage immediately, operation need not be considered. However, if the patient continues to bleed after more than two or three transfusions have been given, and if the red count persists at a dangerous level, immediate operation may be indicated. Naturally, several donors must be available to maintain the patient's physical condition during the operation and to start him on a safe postoperative course.

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As stated above, it must be emphasized that in symptomatic purpura (secondary, nonthrombocytopenic) in which the platelet count is unchanged, splenectomy offers no relief of symptoms.

HEMOLYTIC JAUNDICE. As previously stated, splenectomy in hemolytic jaundice is followed by very good results. It is in reality immaterial as to whether or not there is a familial tendency so long as certain prerequisites in the diagnosis are met. Since many cases of hemolytic jaundice are chemical in origin, produced by ingestion of certain drugs, the results in those having familial history will be better than in the patients not having a familial history. However, the results in the group not having familial history should be just as good if they are differentiated from the group in which splenectomy should not be performed.

Perhaps the most constant findings in hemolytic jaundice are jaundice and splenomegalia. Anemia varies and is, of course, most prominent during the attacks of hemolytic crisis. Immature forms of erythrocytes, particularly reticulocytes, are present in the blood in large numbers. The amount of bile pigment in the stool is increased due to the increased destruction of red cells. A constant finding is the increased fragility of the red cells. In normal people, hemolysis of erythrocytes in vitro begins in 0.45 per cent salt solution and is complete in 0.35. In hemolytic jaundice this hemolysis may start at a concentration as high as 0.65 or 0.70 per cent, being perhaps at 0.45 per cent. Following splenectomy the fragility of the erythrocytes usually does not change. Liver function tests rarely reveal any evidence of hepatic insufficiency. Gall stones, usually of the calcium bilirubinate type, are present in perhaps more than one half of the cases.

There may be considerable indecision as to whether operation should be performed in the presence of an acute hemolytic crisis. Ordinarily, splenectomy should be avoided in this crisis. However, patients may die as a direct result of a crisis. To offset this possibility, Curtis and associates[2] have resorted to emergency splenectomy in the presence of acute crisis with very low mortality rate. It should be emphasized, however, that splenectomy in this type of case is so dangerous that it should be performed only when huge quantities of blood are available immediately after splenectomy. Usually the administration of blood preoperatively in such patients results in no improvement since it is hemolyzed very rapidly after being transfused.

One of the important features, therefore, in the decision as to the advisability of splenectomy in hemolytic jaundice is not to perform operations in patients whose anemia and jaundice are caused by drugs or infections. In other words, anemia or jaundice must be of splenic origin. Some hematologists are of the opinion that the blood examination should reveal a spherocytic anemia of the reticulocytic type, and in fact go so far as to say that splenectomy should not be performed unless the anemia is of this type.

SPLENIC ANEMIA (BANTI'S SYNDROME, PORTAL HYPERTENSION). Splenectomy in this disease is helpful in many cases, but is rarely, if ever, curative, largely because the disease is not splenic in origin. It is difficult to determine just when splenectomy will offer results which will justify the operation. However, the author is firmly convinced that operation should be reserved for the early cases. In the late cases there will be such a severe degree of hepatic insufficiency with gross cirrhotic changes that the mortality rate will be remarkably high.

The disease is most common in adults, but is seen in children. Common early symptoms are anorexia, nausea, abdominal discomfort, and weakness of an increasing degree. Anemia may not be present early in the disease, but is universal in the later stages. However, the resistance of the erythrocytes is apt to be increased. The liver may be enlarged; on many occasions a moderate degree of cirrhosis will be present, commonly resulting in ascites. The course of the disease is remarkably uncertain. On some occasions patients live for years, having mild exacerbations. On other occasions the anemia and hepatic insufficiency develop rapidly, leading to an early death. Fever, nausea and vomiting may occur during acute attacks. Hemorrhage into the stomach is common and arises from esophageal and gastric varices. Jaundice is usually present before death. Leukopenia is a fairly constant finding and is of definite prognostic value.

There will frequently be difficulty in differentiating the disease from hepatic cirrhosis. (Laennec's) It is important, however, to do so, since splenectomy is indicated in hepatic cirrhosis only in an occasional case. In the borderline cases it should be remembered that in cirrhosis of the liver the degree of hepatic damage is out of proportion to the degree of enlargement of the spleen. Likewise ascites develops earlier in cirrhosis of the liver than it does in Banti's disease.

Hemorrhage from the esophageal varices may be troublesome and even dangerous. In fact, death ultimately results from hemorrhage in about one-third of the cases. The varices are due to the portal hypertension, a term which was introduced by McMichael[3] and popularized by Rousselot.[4] However, as long ago as 1904 Dock and Warthin[5] called attention to the fact that obstructive lesions in the portal or splenic vein might lead to development of the syndrome. It is a very significant fact that splenectomy invariably obliterates this bleeding for a time. However, in a large percentage of the cases hemorrhage recurs, and not uncommonly is the cause of death.

In Banti's disease, therefore, the utmost judgment must be exercised in picking the cases for splenectomy. Patients with unusually large spleens, ascites and jaundice, showing a severe degree of hepatic insufficiency by one or more of the tests of hepatic function, should not be submitted to splenectomy. Not only will the mortality rate be high in this group, but the results will be poor.

Felty's Syndrome. Although splenectomy appears not to be curative in this disease, operation is followed by a remarkable improvement for a period of several months to a few years. The spleen is moderately enlarged in the disease and may be extremely friable, not containing much fibrous tissue. Important manifestations are splenomegalia, chronic arthritis, leukopenia and anemia. Splenectomy was first performed by Hanrahan and Miller[6] for this disease in 1932. Although patients appear to be very ill from the disease, they seem to tolerate splenectomy remarkably well, particularly if adequate blood for transfusions is available.

Gaucher's Disease. This is a rather uncommon disease; it occurs chiefly in young girls, and is characterized by marked enlargement of the spleen with few debilitating symptoms. Pigmentation of the skin over the face and neck is common. Anemia may develop after a few years. Enlargement of the liver is common in late stages. The diagnostic pathologic feature is the presence of large lipoid containing cells in the reticulo-endothelial organs such as the spleen, lymph nodes and bone marrow. Bone lesions as demonstrated by x-ray are common. On some occasions splenectomy is very beneficial.

Miscellaneous Types of Splenomegalia. Perhaps the most important of this group is atrophic cirrhosis of the liver. However, splenectomy is indicated in these cases only in certain patients. Patients with an unusually large spleen for the disease, and a relatively small amount of cirrhosis, represent the optimum types for splenectomy. After ascites has developed it is doubtful whether or not splenectomy will be of much value. In children there is a condition consisting of splenomegalia associated with hemorrhage from esophageal varices, but with relatively small amount of cirrhotic changes in the liver. Smith and Farber[7] reported series of these cases a few years ago. They noted that anemia was not present except when produced by hemorrhage. Neither was there very much tendency toward a development of cirrhosis and ascites. It is possible that this group of patients represent children with obstruction of the splenic or portal vein, perhaps of congenital origin.

Occasionally splenomegalia of a persistent nature is encountered in syphilis and malaria. If the spleen still remains much enlarged after adequate treatment, splenectomy may be considered. However, it is quite certain that splenectomy should not be performed in every patient having splenomegalia due to these causes since symptoms are so rarely produced by the enlarged spleen.

Relationship of Operative Mortality To Indications for Splenectomy. The surgeon should always weigh the possibility of operative mortality against probable benefits to be derived from the operation. This is so often neglected and is, nevertheless, so important that attempts should be made to place this consideration on a mathematical basis. For example, if the patient is a poor operative risk and the probable mortality rate is 50 per cent and benefit is to be excepted in only about 25 per cent of such cases with no chance of a cure, it stands to reason that splenectomy should not be performed. Such a situation would be exemplified very well with most cases of atrophic cirrhosis and most cases of late Banti's disease. On the other hand, if the probability of a cure is very strong, perhaps as high as 80 per cent or 90 per cent as it might be in purpura hemorrhagica and yet the possibility of a mortality rate as high as 20 or 30 per cent, in the presence of severe persistent hemorrhage, there would still be indications for splenectomy. The outlook in purpura would never be any worse than this since the operative risk even in cases such as these are never as serious as an 80 per cent expected mortality if proper postoperative treatment is given. As already stated the most important feature of this proper postoperative treatment is numerous transfusions beginning with entrance of the patient to the hospital, and continuing during and after operation.

It is the experience of practically all large clinics in which many splenectomies are performed, that the lowest mortality rates are encountered in purpura hemorrhagica and hemolytic anemia. This has been our experience at the Illinois Research Hospital. Of 30 cases of splenectomy performed during the past five years, we had three deaths. As indicated in the table below, all three of these deaths occurred in the Banti's group and always in late cases.

SPLENECTOMIES
(10/1/36 to 10/1/41)

Disease	*Cases*	*Deaths*	
Ess. Purpura	11	0	
Hem. Jaundice	4		
Banti's Disease	7	3	Portal Hypertension
Lesions Splenic Vein			
1. Complete Obliteration	2	0	
2. Obst. 2" from hilus	2	0	
3. Obvious thrombosis	1	0	
Felty's Syndrome	2		
Sickle Cell Anemia	1		
Rupture	1	1	
Total	30	3	
Mortality 10%			

Portal hypertension was present in the three fatal cases. Likewise a certain degree of hepatic insufficiency was present as indicated at autopsy. Two of the patients had serious postoperative hemorrhage which no doubt was an important factor contributing to death. This indicates clearly that in portal hypertension the surgeon must be very careful to ligate all bleeding areas, particularly the veins. The third patient died with a typical picture of hepatic insufficiency on the twelfth postoperative day. At autopsy there was a marked cellular necrosis of the liver, corroborating the clinical diagnosis.

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The Value of Physical Examinations in Early Adult Life

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SICKNESS IS THE tragedy of life. With it come pain of body, mental suffering, often dire poverty. The individual member and the family as a whole suffer. *Prevention* of sickness is plain common sense—and many forms of illness can be prevented if discovered in early stages. *Means* of prevention for the individual are adjustment of daily life to the principles of scientific medicine and periodic health examination.

In the past twenty-four years it has been my pleasure to be the college physician at State College. I probably made the first physical examination of any college man to be recorded in this state. Today there is a complete physical record at State College of every boy who has attended it in the past twenty-five years. For the past nine months I have been the Chief Medical Examiner at the Recruiting and Induction Station, Camp Shelby, Mississippi, and have been responsible for the examination of approximately 20,000 men. So what I will now have to say will come very close home to you as I will be speaking to you about your boys.

The time in life during which most persons enjoy the maximum of physical health and vigor is during late childhood and the early adult years. During this period chronic diseases are rare, acute infections occur, but usually are of short duration. Strenuous physical exercise produces a feeling of well being that is a stimulant to still greater exertion. Sleep may be irregular, diet badly chosen, other rules of hygiene disregarded and dissipation indulged in to excess, all with little or no apparent ill effect. At this time the body as a physical machine is at its peak of efficiency; its reserve is high and the individual truly should experience the thrill of life at flood-tide.

Unfortunately, however, life is not divided into distinct and unrelated periods. The abnormal condition or diseases that make their appearance at one stage of life frequently have had their beginnings in a much earlier period or have been the result of the neglect of health throughout several periods.

Much progress has been made in the past twenty years in promoting periodic health examinations of adults, but for boys and girls in early adult life very few seem to have considered periodic health examination important.

Most of the boys that have come to State College have come there without ever having been examined. Very few of the men examined at Camp Shelby have had a physical examination made before. A large part of my time at the College was taken up talking to the boys about the defects that were found which could be corrected. I am happy to say that they had most of the correctable defects corrected. Once a year I talked to each boy about every defect he had.

The national health program of today is centering its attention more and more on the health of the individual. This has become necessary because the major causes of death and disability are no longer diseases that can be reduced by legislative measures. For example, heart disease may be the result of a variety of causes, such as focal infections, rheumatism, high blood pressure and syphilis. Focal infections, in turn, usually are present and gradually feeding their toxins into the system for years before permanent damage to organs, such as the heart, occurs or the characteristic symptoms of the disease appear. Physical examination in early adult life will discover many of the disease processes before permanent damage has resulted. At State College we found 15.2 per cent of the students has diseased tonsils: 2.1 per cent had sinus infections; 0.9 per cent had middle ear infections and 0.6 per cent had abscesses of the teeth.

Any of these foci might well serve as a portal of entry for infection which could cause heart disease in later life.

Periodic physical examinations also will discover some unsuspected cases of heart disease before the reserve of the heart has been exhausted and breakdown occurs. In twenty-four years at State 1.1 per cent were found with a valvular defect. Each man was advised in regard to the prevention of further damage to the heart and to the building up of its reserve strength. High blood pressure, which is one of the major causes of heart disease, was found in 14.2 per cent of the students.

At Camp Shelby in the past nine months we have refused to accept 308 selectees for military service because they had some defect of their hearts or circulatory system. If the causes of these defects had been found and corrected most of these boys would now be in the service of their country.

In England following World War I the late Sir James Mackenzie, that astute diagnostician who taught us much that we did not know about the heart, stated, "There is a widespread belief that a heart with a murmur is an impaired heart, and, although it is also recognized that many murmurs are not of serious moment, yet the absence of a knowledge of which murmurs are serious and which are innocent has not been recognized. In other words, the knowledge of how to assess the value of murmurs is lacking."

Then, as he reminded us, writing in 1920, the scheme was divised in England of placing men in different categories according to their limited fitness for military duty. On paper the scheme worked all right, "provided there was the knowledge necessary to recognize the men's degree of impairment." This was the essential part of the plan, and, according to Mackenzie, this was just where it broke down, since no one possessed this knowledge. It meant, as he pointed out, that the ordinary physician should not only be able to recognize the signs of disease, but he should be able to say how much work a man with a given impairment should be able to perform. "This," he declared, "is a kind of knowledge that nowhere exists." And I feel sure that one reading is insufficient. The young men are more susceptible to a change than older men. Negroes showed a wider variation than whites. I believe that universal physical examinations would have found the causes of these defects and that life would have been prolonged and efficiency increased in these men beyond conception.

THE VALUE OF THE CHEST X-RAY IN PHYSICAL EXAMINATIONS

In the eight months of operation of the x-ray department of the Camp Shelby Induction Station, we have taken 25,465 chest x-rays. This is almost a life-time of experience.

The value of the x-ray in discovering pulmonary pathology can not be over emphasized. It is the most important single procedure in arriving at a diagnosis in diseases of the chest. Its value is enhanced greatly when used along with clinical history and findings.

Of the 25,465 x-rays made, 892, or nine out of every thousand, had chest defects that made them unfit for military service. Six out of every thousand were disqualifying tuberculosis and three out of every thousand were non-tuberculous chest diseases such as pneumonitis, pulmonary tumors, spontaneous pneumothorax, pleurisy, bronchiectasis, etc.

Only 12.7% of all those with rejectable chest disease showed significant physical signs. This means that only approximately thirteen out of every one hundred chest pathologies would be discovered on a physical examination alone. What is more significant, fourteen out of every one hundred cases of active tuberculosis as demonstrated by the roentgenogram could have been suspected by a physical examination without an x-ray.

The value of the x-ray picture is made more evident by the fact that the radiologist and the internist frequently consulted each other in regard to various selectees. As a result the selectee with chest lesions was quite often rechecked and re-examined.

Tuberculosis occupies today about seventh place in the causes of death in this country. Yet in the age group between twelve and thirty-two it kills more people than any known disease. Consequently the only way we can stop this tremendous death rate is by beginning in the high schools themselves and keeping regular physical checks on them, complete with x-rays, and heading it off before it gets to an advanced stage to where they are incapacitated from the results of their disease.

Other diseases, previously unsuspected, which are discovered by the physical examinations are diabetes, albuminuria. hyperthyroidism and duodenal ulcer. Year after year at the college I found from 40 to 50 boys showing albumin or sugar in their urine. They were always the first that I called back and talked to. By Christmas of each year most of them had cleared up. I have always felt that had I never done anything else at State that this one service would have been worth my pay to Mississippi, for I am sure that many lives have been reclaimed for the state.

NEUROPSYCHIATRIC EXAMINATION

One of the most important parts of our examination of the selectees at Camp Shelby is the neuropsychiatric examination and it reveals some very interesting facts. The difficulties of a neuropsychiatric examination are realized when it becomes necessary to complete such an examination in about one to three minutes time, not knowing anything either about the past history or background of the individual, and with the presence of the elements of fatigue, fear, disappointment, and worry in the majority of the examinees.

Out of approximately 20,000 examined in the last nine months, our rejections in January increased about 70 per cent. It was in January that we began to get the selectees without having been weeded out by the local doctors. So it is clear that the work done by the home examiners was most efficient and most valuable. This efficiency, to some extent, was due to the fact that these physicians knew the individual personally or had a good idea as to the mental background of each individual.

As a whole the white examinees led the neuropsychiatric rejections two to one. The colored examinees led the illiterate rejections by the ratio of two to one. The total illiteracy rejection was approximately 4.1 per cent while the total neuropsychiatrical rejection was .9 per cent. Therefore, a rough cross section of 20,000 equally divided between white and colored young men shows that about one in every fifty white men and one out of every hundred colored men had some neuropsychiatric affliction. Perhaps some of the difference could be explained in the fact that the negro presents a much more difficult subject for psychoanalysis than the white man. However, the neurological examination is less difficult and still maintains the same ratio of two to one with the whites leading.

With reference to illiteracy the above ratio is reversed and we find that one out of every fifty negroes and one out of every hundred white men are illiterate. The negroes showed an approximate 30/70 ratio of intelligence in favor of the whites as far as knowledge of the outside world, trend of events, and things in general, but the white selectees far surpassed the negro in the power of mentation, deduction, coordination, and adjustment.

EYES

To enjoy the maximum of physical and mental health, one needs to be free not only from major diseases, but also from minor defects and from injurious habits of life. Defective vision will never cause death but, uncorrected, it may cause headaches, physical and emotional strain and fatigue, which may so seriously handicap the individual that he makes a failure of his life's work and is robbed of the pleasure of life itself.

It has been my custom never to give a college student glasses without dilating the eye. I found out years ago that I could not give the boy the full correction found with a mydriatic, but I compromised on the total strength and then would insist that he wear the glasses whether he liked them or not. I found that the boys who worked the hardest were those who got the most good out of the glasses for small errors of refraction. Years ago many people suffered discomfort, pain or poor vision for months and years, when glasses would have prevented it all. You will be interested to know that when I went to State College there were not a half dozen boys there wearing glasses. For the past fifteen years I alone put on over a hundred pairs of glasses a year and this many more were put on by the doctors over the state. It is well to advocate the wearing of correct glasses. I am fully convinced that I would have been a failure in life if I had not found out early in adult life that I was badly in need of glasses. They have been a source of pleasure to me, and because I have derived so much good from them, it has been the means of my helping hundreds of young people.

A number of interesting points can be mentioned in respect to the eye rejections at Camp Shelby. It has been the custom of the eye, ear, nose and throat examiners of the induction team to dilate with homatropine all eyes in which the vision falls below the limits prescribed for class 1-A. Today about 7½ per cent are examined under drops. The percentage of white rejections all along has been about twice as great as the colored eye rejections. The colored men did not have to be examined under drops as much as the whites, because refractive errors proved much less frequent. Likewise amblyopia exanopsia showed only 12 negroes to 79 white cases. In disqualifying posttraumatic defects there was about an equal number among colored and white. Only in syphilitic eye conditions did the colored show a greater degree and this was almost three to one.

In the groups examined since July we have found about 300 cases that have been struggling alone in civilian life with uncorrected vision of 20 50 or less that could easily have been corrected with lenses. Part of the reason for this has been comparative poverty in a portion of our population, although quite a few of these cases were ignorant of the fact that their vision was defective and had not appeared before their local eye specialist for an eye examination. Although the public is much better educated of late than heretofore concerning attention to the eyes, the program of educating the public should certainly be continued and improved upon.

EARS

Impaired hearing always hampers one's intercourse with his fellowmen and may produce emotional conflicts to the extent of making a person seclusive and anti-social. At State College I found 1.2 per cent of the students to be hard of hearing. I was able to help but very few of them. At Camp Shelby 85 have been rejected for ear, nose and throat conditions. Otitis media was the condition responsible for most of the rejections. Dr. Duel and his scientific co-workers in every country are today studying the causes of deafness. When we find a young adult suffering with progressive deafness we should try to keep him from falling into the hands of quacks and charlatans, and try to get him to take up the study of lip reading. This should be done in every case, so the afflicted individuals can be made valuable members of society instead of being banished to a life of seclusion.

SYPHILIS AND GONORRHEA

It was Osler, the great leader in modern medicine who said, "Know syphilis in all its manifestations and relations, and all other things clinical will be added unto you." Many leaders in the social sciences are now saying in effect—know syphilis in all its manifestations and the cause of many social ills will be revealed.

There should be no distinction made between venereal disease and many other of the epidemic diseases. The principle of control should be the same. We take great care to treat, isolate and prevent the spread of smallpox,diphtheria, measles, and tuberculosis; but apparently, from our attitude, a venereal disease is just a natural course of events and needs no special attention other than a few therapeutic measures, which in most instances fall far short of their mark, due to ignorance or the failure to follow up by the physician or to lack of perseverance on the part of the patient.

At State College I found an average of one case of syphilis a year and about twenty cases of gonorrhea. In the Army the picture is different. A blood test is taken today of every young man who receives a physical examination. In the past four months at Camp Shelby we have found 97 whites and 1255 negroes to be suffering with syphilis. Since December we have found 15 cases of gonorrhea in the whites and 206 in the colored.

Long life and physical well-being are a natural heritage. Yet most of us are unreasonably denying ourselves our right. For by and large the majority of ills—tuberculosis, cancer, and the rest, are less formidable enemies to longevity and physical efficiency than the combination of our many individually small indulgences.

A fast ocean liner like the Queen Mary will not be appreciably impeded by one barnacle, but the barnacles may become numerous enough in time to reduce her speed. So with the human body. You probably know that the caffeine in a cup of coffee does you very little harm, and so you keep on drinking your cup of coffee. The same is true of the nicotine of a moderate smoker; of alcohol of a moderate drinker of beer, wine, or spirits; of aspirin, sedatives, laxatives, and other drugs commonly taken for headaches, constipation, colds and other slight ills. You know, too, that there is only a little harm in a little neglect of exercise, or a little over-weight, a little constipation, a little loss of sleep, a little dissipation, a little hurry, worry, fear or anger, a little delay in going to your dentist or a little of any other injury whatsoever.

What you do not know, because you have never stopped to count up, is that almost every day and almost every hour in the day, you are doing yourself so many little harms that the total effect must eventually be colossal.

If you want to be a tiptop sea craft and not gradually become a barnacled old hulk, reverse your attitude. Be examined physically regularly, find out your defects, have them corrected and instead of being content with the truth that "My cup of coffee doesn't hurt me much," ask yourself, "How can I add anything to my physical fitness?" Then you will be set for scraping off the barnacles.

An efficient business concern takes an inventory of its stock periodically to determine its assets and liabilities and to eliminate unnecessary waste. This principle has a parallel in periodic physical examinations due for the purpose of assisting the physician in making early diagnosis of disease, to the end that waste of productive capacity and the incident of chronic disease may be avoided.

Probably the chief reason that health examinations have not been particularly emphasized for young adults is the general belief that at this age such examinations are unnecessary. Another important reason is the belief that boys are carefree, living only in the present and entirely uninterested in such procedures as periodic health examinations. I can tell you most emphatically after having made such examinations for the past twenty-five years in early adult life that the examinations are greatly appreciated by those examined, and I know that many lives have been saved by these examinations.

I have noticed that the boys who have gone to State College from counties that have full time county health officers are always in a better physical condition than the boys who come from counties without the full time county health officers. This is solely because these full time county health officers have been selling health to their counties.

My friends, sometimes we miss much in life. It is not a comfortable feeling that comes over us, upon arriving at a railroad station, only to learn that we have missed the train. All through life we miss things—opportunities to improve, to make money, to gain new experiences, but to me the saddest thing to miss is an opportunity to make a life more healthful or to save that life. Our high schools and colleges are going to miss a wonderful opportunity in the next few years, to help save this country by producing healthier boys and girls, if they do not put a larger emphasis upon the early detection and correction of correctable defects, which can be found only by physical examinations made by competent physicians.

It's Up To Us*

ALSTON CALLAHAN, M.D.
ATLANTA, GA.

WE HAVE COME together today not only to enjoy the pleasant association with our friends throughout the state, but to increase our knowledge of our specialty. We are happy to have as our official guest Dr. W. R. Buffington of New Orleans, who will speak to us shortly, and several of the essayists from the O and O society.

But before we consider the details of our particular branch of medicine, I am going to presume on your time for just a few moments to consider something even more important, and of which our section is only a part, and in which we can render the people of our state an invaluable service. In Mississippi we have the highest rate of venereal disease of all the states in the Union, and this is in spite of the work of the State Board of Health, which we value so highly.

It has been estimated that 25,000 white people and more than 300,000 negroes have syphilis, and during the past year, 28,000 new cases were reported. This latter is the blackest figure of all, and we wonder if we are not still losing the fight instead of winning it. No one connected with this situation, unless it be the diseased ones themselves, has been apathetic. The federal, state and county governments have appropriated money, and our State Board of Health is recognized as one of the most outstanding in its achievements. Yet the money and men that are now engaged in this battle are but a fraction of what is needed. It has been estimated that Mississippi needs at least 450 venereal clinics, each costing as a minimum one thousand dollars a year to operate.

There is no question of our needing these facilities, nor is there any doubt that we need a law requiring Wassermann tests before the issuing of a marriage license. The public must be educated, but in addition, I personally have always thought that we need some form of legislation to compel non-coöperative patients to continue their treatment.

All of you are doubtlessly aware of the new rules and regulations of the State Board of Health, enacted last December 9, which correctly classify syphilis and gonorrhea as communicable diseases, and make it the duty of all Mississippi physicians to report any or all cases that are deemed dangerous to the public health. The State Board of Health, or its representative, must then take steps necessary to protect the public health, even if it means quarantine or legal seizure of the individual.

Yet the State Board of Health believes that the major stress is to be placed on education in the control and eradication of the diseases, and that compulsion plays only a minor part. While not understanding the value of the former, I take issue with them (if you will forgive my temerity in opposing this wise and experienced body) and say that compulsion is equally as important.

In Vicksburg an employee of an ice plant consulted me for chronic sinus disease and in making a study of his case I discovered that another physician was administering anti-syphilitic treatment to him. He did not respond as I thought he should have to the treatment I was giving him, and further consultation with his physician disclosed that he took the anti-syphilitic treatment only under protest and quite irregularly. In the course of three years he had received only about 20 injections of neoarsphenamine and few of these were given in consecutive weeks. His physician was doing everything possible to induce him to continue the treatment—lowering the fee to $2 an injection, reminding him to come, etc. I added my urgings and pointed out the impossibility of his becoming cured of diseased sinuses until the basic condition was corrected. He listened politely to our remarks, but declined the proper treatment. I do not believe any educational project would succeed with him, and I know that he constitutes a menace to the public health.

A young automobile mechanic and his wife were transferred to Vicksburg, and their doctor in another city referred them to me for mild chronic pharyngitis, and syphilis. Their budget was small and although I am not a syphilologist, I consented to treat both local and general conditions, with the privilege of a consultation whenever I considered it necessary. They had one small child whose Wassermann was negative, and it seemed most likely that one of the parents had contracted the disease after the child was born, and transmitted it to the other. After a few weeks of treatment when all symptoms ceased, they came irregularly, and then stopped. I spent some time with this couple explaining the situation, and gave them health booklets, but they told me that since they felt all right, they did not see why they should have to take the injections, and would not return or consult another physician. In his work as a mechanic he may not constitute a menace to the public health, but it is hardly to be hoped that his wife will not have more children, and if she does have any that are viable, they doubtless will become wards of the state.

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*Chairman's Address on Eye, Ear, Nose and Throat Section, Mississippi State Medical Association, May 12, 1942.

One more case history, and I will stop. Five years ago a negress was referred to me with a bilateral iritis so painful that large doses of morphine could not control it. She had tertiary syphilis, and concentrated antisyphilitic and ocular therapy succeeded in a few weeks of freedom from pain and a marked improvement of the eyes. She promptly stopped treatment and despite repeated urgings and dire threats she could not be convinced of the necessity for continuing it; and six months later again showed up with such a severe attack of iritis that it was necessary to institutionalize her, and again, after three weeks of treatment, the pain and redness left her, and she again stopped treatment. All attempts at conversational coercion were fruitless; she would not be treated. During the five years I was in Vicksburg, I treated her at intervals of every six months, and the only medication that she could be induced to take between attacks was an occasional bottle of mixed treatment. This negress is the secretary-treasurer of a large negro lodge; I wonder how many of the Selective Service rejections she alone is responsible for?

These are not unusual cases, and I could present many more of the same nature, and so could any Mississippi practitioner in this section. I am sorry this wise and foresighted law was not passed until the time I moved to another state, for from my files I would have turned over 50 cases the first month, and I am sure that most of you can do likewise. May I urge you to follow this procedure with the patients who are not coöperative, so that some day the sovereign state of Mississippi will rank with the country of Sweden, where a syphilitic is automatically jailed if he misses an injection, and where the syphilitic rate is the lowest in the world.

Gentlemen, it's up to us.

144 Ponce de Leon Avenue, N. E.

The Eyes In Aviation*

STIRLING S. McNAIR
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THERE ARE MANY physical, mental and instinctive qualities necessary to make an excellent aviator. Each of these qualities is very important, and all combined together go to make a pilot capable of the expert handling of air craft in our age of superlative speed and efficiency. Of all the components that make up the physical qualities, I believe the eyes play one of the most important parts.

The selection of pilots by testing their physical, mental and instinctive qualities has been a great advancement to aviation. Until 1910, medical science seems not to have been concerned with the problem of pilot selection, but in that year, minimum physical standards for military aviators were drawn up in Germany. In 1912, France and the U. S. also adopted special requirements. After disastrous results during the last World War, all Allied countries and Germany in 1916, began an intensive study of pilot selection. The first step in improving the quality of candidates for flying training consisted of more rigid physical standards. However, it was evident at that time that physical fitness was not alone sufficient to insure success in aviation and much research of the war period was devoted to the development of objective tests of reaction, time, memory, attentiveness, muscular coordination, orientation, and discrimination.

In 1916, specialists in eye and ear were appointed to test pilots and their importance was well recognized then as over one half of the examination form was developed to these organs, while on the other hand the nervous system was allotted only one line. Refractions were not required. The eye examination was comparatively simple as compared with present day examinations as conducted by flight surgeons. During the World War I, 50% of the men rejected could not meet the eye requirements.

It is generally agreed among authorities in aviation medicine that a normal system is one of the primary requisites for safety in aviation. The high speeds at which airplanes travel, the necessity of avoiding obstacles in the air, the judgment of instances in the take-off and landings, and the necessity of correctly interpreting colored signals indicate that good visual acuity alone is not adequate to qualify for flying training and that the total function of the eye must be investigated.

Physical defects occurring in older pilots show that the eye accounts for a great proportion of them, and that the incidence of these defects rapidly increases with age. Above the age of 40 presbyopia accounts for many of these eye changes.

There are many tests for the eyes of a prospective pilot, but I shall be as brief as possible and try to include only the most important ones which are as follows:

1. Visual Acuity—which is the ability of the eye to appreciate form. The most common test of visual acuity is with the Snellen test letters. A person with normal vision should read the line marked 20 at 20 feet. Inability to read this line at 20 feet with each eye separately should disqualify the applicant.

II. Depth Perception—which is the ability to appreciate the third dimension, to judge distance and to orient oneself in relation to other objects within the visual field.

Depth preception in aviation depends on four factors. (a) Size of the retinal image varies inversely to the distance of an object from the eye. Therefore, the closer an object is to the eye, the larger the retinal image; and the further away, the smaller the image. Thus the size of the retinal image is in a measure the distance of an object from the eye.

(b) Physiological diplopia is the ability to recognize differences in distance between two objects within the visual field based on the fact that all objects in the field closer or further away than the object fixed gives rise to diplopia.

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*Read before the Central Medical Society on March 3, 1942.

(c) Binocular parallax is the impression of relief or solidarity given to an object by the slightly different view of it which is obtained by the fact that the right eye sees a little more of the right side of the object, and the left eye a little more of the left side of the object.

(d) Convergence is the ability of the two eyes to fix on an object at a distance less than infinity. This factor operates with binocular single vision only. Depth perception is measured by the Howard-Dolman apparatus which consists of an upright rod attached to a cord and a stationary upright rod. The applicant at 20 feet tries to place the movable rod, by pulling the cords so that it will stop opposite the stationary rod.

III. Ocular Movements. It is most necessary to have both eyes parallel in all fields of motion so that diplopia does not result when eyes are moved in any direction. The mobility is tested with a Maddox rod to determine whether there is a manifest deviation or even a latent tendency to deviation. These tendencies of deviation are divided into classes, the main ones are: esophoria, which is a tendency for the eyes to turn inward; exophoria, which is a tendency for the eyes to turn outward; and hyperphoria, which is a tendency for one eye to be higher than the other. Any marked deviation of the eyes from parallelism disqualifies. The power of the eyes to abduct against prisms is important, especially if there is a tendency for deviation from parallelism. The angle of convergence and the associated parallel movements are important but will not be discussed in this paper.

IV. Inspection of the eye should be carried out for both in external and internal structures of the eye and their adnexa. A good light should be utilized as well as a dilated pupil for examination with the ophthalmoscope. Any disease or defect that actually materially interferes with the normal ocular function should disqualify.

V. Central color vision may be complete or incomplete. Congenital color blindness exists to a moderate degree in about 9% of male adults and to a marked degree in 3.5% The importance of color perception is obvious. The test most used now is a modification of the Ishihara test.

VI. Accomodation is the process of increasing the dioptric power of the lens of the eye and thus to focus objects closer than 20 feet from the eyes. Low accomodative power may be indicative of fatigue, staleness, or of a debilitating condition, either of a transient or permanent nature. A low power of accomodation is disqualifying.

VII. Field of Vision. Normal visual acuity is well defined only in the foveal (central) region. However, vision in the peripheral portion of the retina is of greatest importance, especially in aviation. In ordinary light, central vision is more acute, whereas in low illumination peripheral vision is the more acute. The peripheral portion of the retina is very sensitive to moving objects, as it acts as a valuable protective device in all forms of locomotion. The fields of vision are taken with a perimeter. Any pathologic alteration in visual field should disqualify.

VIII. Refraction under a cycloplegia is necessary to determine any refractive error. As young people often have normal vision with moderate or even high refractive errors, due to their active muscles of accomodation, it is necessary to paralyze the muscle of accomodation to get an accurate study of the refractive status of an eye at rest. Only very small errors of refraction are permissible.

IX. Ophthalmoscopic examination should always be done as pathologic conditions of the retina and choroid are most frequently indicative and extra-ocular or systemic disease. Any abnormality found should be classified and studied before rejection of the applicant.

It is not difficult to understand that a pilot travelling 400 miles an hour in a plane needs the best possible visual acuity as well as depth perception in order to judge distances, heights and any objects that may come into his field of vision. A good depth perception is most important in take-offs and landings and the majority of airplane accidents occur in these maneuvers. It is important that the eyes of a pilot stay parallel in all directions of gaze. If a pilot's eyes tend to turn inward or outward, his depth perception may be poor, and when his eyes become tired, the added strain of trying to keep the eyes parallel will markedly impair a pilot's vision. Therefore, any abnormal tendency of deviation from parallelism is disqualifying. Ability to distinguish colors properly and promptly is important for signal lights, field lights, and landmarks. The accomodative power of a young individual is a good index of his physical well being and when accomodation is lowered the pilot may not be up to par physically. A normal field of vision is important so that a pilot can see as much as possible without moving head or eyes and have as large a field of vision as possible.

The eyes of all American pilots are examined with a cycloplegic to determine how much strain is on their eyes even though they have normal visual acuity. It is well known that many young people have normal vision but their muscles of accomodation are strained in order to procure this vision. A person who is constantly straining his eyes will tire easily and vision will be normal only before his eyes become fatigued. Therefore, American standards allow only very small errors of refraction found under cycloplegia.

The eye examination given to American pilots is probably the most thorough and complete eye examination given anywhere in the world. Our other physical standards are also high and these facts play an important part in making American aviators the finest in the world.

One thing which has disquieted us no little is to hear the statement from some religious leaders and others that Abraham Lincoln was the greatest American and was Christ-like in his demeanor. An early history of Mr. Lincoln, written by those who knew him well and intimately, has been expurgated. It speaks of him as the very opposite of Christ-likeness, his conversation, his jokes, neither permissible in the presence of a lady, and his orders placing quinine on the contraband list indirectly the cause of thousands of deaths in the South, many being prisoners of war. We would not detract anything justly from his reputation but to compare Mr. Lincoln to Jesus Christ is sacrilegious, impious and profane.

Why I Should Not Drink for the Duration of the War

SEALE HARRIS, M.D.
BIRMINGHAM, ALABAMA

THE DUTIES AND OBLIGATIONS OF CITIZENSHIP.

I AM AN AMERICAN citizen, enjoying the privilege of living in a country in which freedom of speech, freedom of worship and the privilege of working at any vocation of my choice, still exist. It is my duty to serve my country to the utmost of my ability in any capacity in which I may be useful as an American citizen. Therefore I will so live that I can be 100 per cent efficient for me in whatever may be my vocation for the duration of the war.

Ethyl alcohol, the active ingredient in beer (5 to 10 per cent), wine (10 to 20 per cent), whiskey, rum and gin (40 to 50 per cent), is a narcotic and depressant—never a stimulant; and if used in any quantity lessens human efficiency in proportion to the amount consumed. Therefore I will not decrease my efficiency for the duration of the war by indulging in the use, or misuse, of alcoholic beverages in any form.

BEER.

I will not touch beer for the duration of the war because it is a habit-forming narcotic drink, and the most harmful, because it is the most insidious of all alcoholic beverages. I am an American citizen—not a German—and I will not lower my standard of living to conform to German ideals and customs. Beer is the national drink of Germany. In the last half of the nineteenth century, from 1850 to 1900, German brewers came to the United States and established breweries which have thrived as they made alcohol habitués out of American citizens.

Anheuser-Busch, Pabst, Schlitz, Burger, Ruppert and many other German brewers and their descendants have become so rich that they have spent vast sums of money—estimated at $50,000,000 a year—in advertising, thus purchasing the influence of the owners of newspapers, magazines, radios and billboards, until now nearly all the avenues of public information have been, and are, engaged in spreading propaganda to lead all classes of American people to believe that beer is a non-intoxicating household beverage.

The German brewers and their descendants have become so powerful politically that they have gone to legislators in almost every state in the Union and to congressmen and senators in the nation's capitol, and have had them to write on the statute books the palpable, and malicious, lie that 3.2 per cent beer is not intoxicating.

Barnum, the great showman of the last half of the nineteenth century, said, "There is a sucker born every minute," but in the twentieth century several suckers have been born every second—proved by the fact that millions of ignorant American men and women, boys and girls, drink beer, a habit-forming narcotic beverage, believing it to be harmless and non-intoxicating. My opinion of the harmfulness of beer carries little weight. It therefore seems advisable to quote briefly a few comments on beer by celebrated men.

Martin Luther, the Great Reformer, Founder of the Lutheran Church, said:

> "Whoever first brewed beer prepared a pest for Germany. All Germany could live on the barley that is spoiled and turned into a curse by the brewer."

Dr. Walter R. Miles, Yale University and Carnegie Laboratory, said:

> "There is no longer room for doubt in reference to the toxic action of beer as weak as 2.75 per cent by weight."

Dr. Harvey W. Wiley, Chief Chemist, United States Department of Agriculture, 1883-1912, said of a festival at the University of Heidelburg, Germany:

> "Ten per cent (of 3000) in Heidelburg, Germany, who had been drinking 2.75 per cent beer were under the table dead drunk; 25 per cent were violently intoxicated. 35 per cent of them were drunk—not intoxicated but drunk."

Dr. H. E. Hamlin, Professor of Physiology, Ohio State University, said:

> "Beer causes approximately 55 per cent of all intoxication (in the United States)."

Count Karl von Moltke, the German military genius of the Franco-Prussian War, 1870:

> "Beer is a far more dangerous enemy to Germany than all the armies of France."

Professor Bunge, celebrated German pharmacologist:

> "Beer is the worst of all the alcoholic drinks because it is the most seductive. In no other drink do we see the alcohol habit so soon formed as with beer. No other drink leads to such intemperance."

I will not be made a "sucker" by German brewers for the duration of the war. Therefore I will refuse to become Germanized by drinking beer.

WINES.

I will not touch wine for the duration of the war because it is a habit-forming narcotic beverage. Solomon, the wisest man in the history of the world, in one of his proverbs 3000 years ago, said: "Wine is a mocker and strong drink is raging. Whosoever is deceived thereby is not wise." What Solomon said applies now, and will apply throughout the ages.

Wine (alcohol), women and syphilis is the sequence wherever people dring wines, beer, whiskey or any other alcoholic beverage. In France one man in every seven has syphilis. 50,000 prostitutes walk the streets of Paris every night in addition to the thousands of women in "gay Paree," who spread syphilis and gonorrhea in hotels, cafes and licensed houses of prostitution.

Sir William Osler, formerly Professor of Medicine of Johns Hopkins Medical School, said: "Man worships at the shrine of Bacchus early in the evening, later he falls at the feet of Venus, and then he becomes a devotee of Mercury for two years"—meaning that a glass or two of wine, or a bottle or two of beer, or a drink or two of whiskey precede association with loose women, and that two years treatment for syphilis follows.

A few brief quotations from literature may be helpful in bringing out the truth about what liquor newspapers call "light wines."

Goeffrey Chaucer, the great English poet (1340-1400):

> "Character and shame depart when wine comes in."

William Shakespeare, the greatest genius in English literature (1564-1616):

> "O, thou invisible spirit of wine, if thou hast no name to be known by, let us call thee devil."

Courtney C. Weeks, distinguished English physician and authority on the alcohol problem:

> "France drinks 90 times as much wine as England, and more than twice as much strong drink (whiskey, brandy, absinthe, etc.). France's total alcohol consumption is three times that of Great Britain."

Bascom Johnson, American Social Hygiene Association, quotes the Prefect of Police of Paris:

> "There are 5,000 registered and 50,000 unregistered prostitutes in Paris alone."

Brieux, celebrated French author, in "Damaged Goods":

> "One out of every seven men in Paris has syphilis."

As a citizen of a country at war, I cannot and will not run the risk of drinking a beverage that may cause me to become disabled from syphilis or gonorrhea, or both. I therefore will not drink wine, beer, whiskey or other alcoholic beverage until our war is won, and all danger of German domination of the United States has passed.

WHISKEY.

I will not touch whiskey, brandy, gin, rum or any other alcoholic beverage of high ethyl alcohol content for the duration of the war.

Dr. Charles Mayo said: "There is no place in civilization for alcohol except in the arts and sciences." He also specifically stated that there is never any occasion to use beer, wine, whiskey or other alcoholic beverage in treating the sick. I would add that the doctor who prescribes any alcoholic beverage for any disease admits that he is ignorant of the physiological effects of ethyl alcohol. He must be entirely unaware of the fact that he is prescribing a habit-forming narcotic drug to his trusting patient, or he would not use beer, wine or whiskey in his practice. The idea that whiskey is good for colds, pneumonia, except in an alcoholic who develops pneumonia, is a relic of the days before the development of scientific medicine.

Dr. William J. Mayo, in one of the last addresses he ever made to the staff of the Mayo Clinic said: "Three out of ten men who drink socially become alcoholic addicts. Can the doctor, of all men, who needs a clear head at all times, run a three-out-of-ten risk of becoming an alcohol habitué?" I would add: Can any man or woman, boy or girl run a thirty per cent risk of being ruined morally, mentally, physically and financially by drinking cocktails, highballs, beer, wine or other alcoholic beverage socially? Drs. William J. and Charles Mayo never touched a drop of beer, wine or whiskey in their lives, nor did they ever serve alcoholic beverages in their homes, yet they were never "wet blankets" at any party.

It is interesting, and informative, to find what the greatest of American statesmen have said regarding whiskey and the liquor traffic.

George Washington:

"Whiskey is the source of all evil and the ruin of half the working men of this country."

John Adams:

"I am fired with a zeal amounting to enthusiasm against ardent spirits, the multiplication of taverns and tippling houses. I am grieved to see the number of idlers, thieves, sots and consumption patients made for physicians in these infamous seminaries."

Dr. Benjamin Rush:

"Hence the frequent transition from the bottle to the brothel. It is because it is as common and natural that the former is generally mentioned as an apology for the disease contracted in the latter, by young men, in their application to physicians for remedies for it. One third of the maniacs in the Pennsylvania Hospital (1812) result from this cause (alcohol)."

Benjamin Rush, signer of the Declaration of Independence, was contemporary with, and a great friend of, Thomas Jefferson.

Thomas Jefferson:

"Whiskey destroys one third of our citizens and ruins their families.'

Abraham Lincoln:

"And when the victory shall be complete—when there shall be neither a slave nor a drunkard on earth—how proud the title of that land that shall have ended in that victory."

Robert E. Lee:

"My experience through life has convinced me that while moderation and temperance in all things are commendable and beneficial, abstinence from spirituous liquors is the first safe-guard to morals and health."

American distillers have become so rich that they have bought the influence of the owners of newspapers and magazines that advertise whiskey and other alcoholic beverages. It should be said to the credit of the owners of the National, Columbia and Mutual Broadcasting companies that they will not sell themselves to brewers and distillers by broadcasting advertisements for whiskey, beer, wine or other alcoholic beverages. Most of the owners of local radio stations will not accept advertisements of whiskey; but they are so ignorant of the truth about beer and wines that they broadcast the lies supplied them by brewers and wine distributors.

I have a mind to think for myself, and my mind is not made up for me by newspapers that advertise whiskey. Therefore I know that the propaganda to drink whiskey moderately emanates from conscienceless distillers, who are willing to make money by making beasts out of human beings. Shakespeare said: "O God, that men should put an enemy in their mouths to steal away their brains . . . and with revelry, pleasance and applause make beasts of themselves."

SOCIAL DRINKING AND MORAL COWARDS.

I have the moral courage and the good sense not to drink socially for the duration of the war.

Any discerning man who has lived long enough to see what happens to the social drinkers, must realize that all drunkards and all other alcohol habitués whom he has known and who are dead, or have become financial and physical wrecks, were made so by beginning as social drinkers. The moderate drinker of today is the heavy drinker, or alcoholic inebriate in a few years.

The boy or girl, man or woman, who has never taken the first drink of beer, wine, whiskey or other alcoholic beverage never will become a victim of alcohol. Therefore the only safe course to follow is the advice given by Dr. Osler to Yale students: "Since few people can control themselves in drinking, the only safe course to pursue is total abstinence."

It is silly to think that a person must drink socially to have a good time. Lady Nancy Astor said: "The reason why I am a total abstainer is because I want to know when I am having a good time."

It clearly is my duty to be strong enough morally to refuse to drink alcoholic beverages of any kind when I need a clear head to perform all the duties of citizenship. One cannot drink at night and think as clearly the next day.

DEADLY DRINKING DRIVERS.

I will not take even one drink of beer, wine, whiskey or any other alcoholic beverage if I drive an automobile at any time during the war. Forty thousand American citizens were killed, and 1,400,000 others were injured, in automobile accidents during the year 1941. There is not the slightest doubt that more than one-half were due to drinking drivers. Few of the drivers were drunk, but they had enough ethyl alcohol in their blood to make them reckless. Even one bottle of beer, or one drink makes a man unfit to drive an automobile or other motor-driven vehicle, on streets and public roads.

RULE G.

Railroad wrecks were decreased enormously by railroad officials adopting Rule G and applying it to engineers, conductors, and other trainmen, train dispatchers and every other person who has anything to do with running a train. Rule G "prohibits the use of intoxicants and narcotics" by all railroad employees engaged in the transportation of human beings. It applies not only to the time when railroad men are on duty; but if any man who has anything to do with running a train is caught drinking beer, wine or whiskey, or if he uses morphine or any other narcotic at any time, even when off duty, he is discharged.

It is unfortunate for our country that Rule G cannot be applied to men and women in all vocations of life, at least when we are at war.

I will do my duty as a citizen of my country and will live by Rule G for the duration of the war, in order to help make the streets and roads of the United States safe for motorists and pedestrains.

THRIFT.

I will not spend one cent for alcoholic beverages for the duration of the war. Not only because it is a foolish waste of money, but because my country needs all that I can spare from my earnings and savings for use in buying defense bonds, with which to purchase airplanes, ships, munitions, food, and all other supplies needed for the successful conduct of the war.

The ignorant, indifferent and dissolute classes in the United States spend an estimated $7,000,000,000 or $8,000,000,000 for beer, wines, whiskey, gin, brandy and other alcoholic liquors. Much of this money goes to fabulously rich and arrogant brewers and distillers.

"Ill fares the land, to hastening ills a prey,
When wealth accumulates and men decay."

If spent for purchasing defense bonds, this would go a long way towards paying the war expenses, thus helping to reduce our taxes.

CRIME.

I will not drink alcoholic beverages because I am, and desire always to be, a law-abiding citizen. Any man or woman who drinks is liable to get drunk and become a criminal while under the influence of alcohol, or in the period of depression and semi-insanity following a liquor party. More than half the murders, at least fifty per cent of the suicides, and from 50 to 75 per cent of the misdemeanors, i.e., drunk and disorderly, driving an automobile while drinking, bootlegging, violation of the so-called liquor laws and other minor offenses, may be traced to the use of beer, wines, whiskey and other alcoholic beverages.

Edgar Hoover, Chief of the Federal Bureau of Investigation (of crimes) estimates that crime costs the United States more than $15,000,000,000 annually. Thus it appears that if all the people of the United States were total abstainers, at least $7,000,000,000 or $8,000,000,000 now spent in investigating and apprehending criminals, and for courts, jails, loss of life and property from crimes, would be available to buy defense bonds. Add to the staggering cost of crime resulting from the use of beer and whiskey, $8,000,000,000 spent for alcoholic beverages if the ignorant, indifferent and dissolute classes were not so stupid as to drink, socially and otherwise, at least $15,000,000,000 would be available to buy defense bonds.

As an individual citizen of the United States it clearly is my duty to abstain from the use of alcoholic beverages for the duration of the war, and thus aid in reducing crime and helping to provide the "sinews of war."

ALCOHOL THE GREAT DESTROYER.

I will not drink for the duration of the war because I desire, above all things, to enjoy the blessings of health; and I hope to live until the United Nations win the war, and until an enduring peace—as outlined by Churchill and Roosevelt—will have been established.

Alcoholic beverages cause more illness and more deaths than any other one enemy to mankind, not excluding Hitler. The late Dr. William H. Welch, Professor of Pathology, Johns Hopkins Medical School, and the greatest medical statesmen that America has produced, said: "It is universally recognized that alcoholic intemperance is the direct or contributory cause of an immense amount of sickness and disability and of a very large number of deaths."

Report of Committee of Fifty on Economics of the Alcohol Problem (1889): "In the United States alcohol was responsible, directly or indirectly for at least 25 per cent of all the poverty requiring relief by charitable organizations, for 37 per cent of pauperism, and for 45.8 per cent of child destitution."

Lloyd George, Great Britain's great World War I premier, when the British Army was fighting with its back to the wall in Flanders, said: "England is fighting Germany and alcohol, and of the two, alcohol is doing greater harm to England."

Gladstone, England's greatest premier, who was active in his eighties, speaking in the House of Commons on March 5, 1880, said: "Greater calamities are inflicted on mankind by intemperance than by the three greatest scourges of war, pestilence and famine; that certainly is true of us, and it is the measure of our discredit and disgrace."

Georges Clemenceau, Prime Minister of France in World War I, and who saved France from accepting a German peace in 1918, said: "It is definitely settled that alcohol (5 to 10 per cent in beer, 10 to 20 per cent in wines, and 40 to 50 per cent in whiskey) is a poison, a poison destructive of human energy—and for this reason of society as a whole."

GERMAN BEER IN UNITED STATES TRAINING CAMPS FOR SOLDIERS AND SAILORS.

I, myself, not only will abstain from all alcoholic beverages for the duration of the war, I will do my utmost to remove the temptation to drink beer and other alcoholic beverages by the millions of American soldiers and sailors who will fight for our freedom.

The most contemptible, as well as the highest-handed piece of political arrogance in our history has been the successful conquest of the United States of America by brewers with German names. In the greatest crisis in our history these brewers, with German names and German ideals, have forced—over the protest of millions of right-thinking Americans —the sale of beer, an intoxicating, habit-forming narcotic, in every training camp where soldiers, sailors and aviators are being trained. I will write the United States senators and the congressman from my state, insisting that they, as representatives of the people, vote for the bill, introduced by Senator O'Daniels of Texas, which will stop the sale of beer in every place in which patriotic young Americans are being trained to fight, and give up their lives if necessary, for the ideals of democracy.

During World War I General John J. Pershing did not mince words when he branded as traitors the manufacturers and dealers in beer and other alcoholic liquors. He suggested death as not too great punishment for the makers and sellers of alcoholic beverages. I would add that owners of newspapers, which mould public opinion to tolerate the liquor traffic, both legal and illegal, have placed themselves with brewers and distillers as public enemies.

General Pershing said:

> "Banish the entire industry from the United States: close every saloon, every brewery; suppress drinking by severe punishment to drinker, and if necessary, death to the seller, or maker, or both, as traitors, and the nation will suddenly find itself amazed at its efficiency and startled at the increase of its labor supply. I shall not go slow on prohibition for I know what is the greatest foe to my men, greater even than the enemy."

The soberest army that ever fought in Europe, the soldiers and sailors who won the greatest victories in history, were trained in cantonments in the United States in which, and for five miles surrounding them, no beer, or other alcoholic beverages were sold.

In World War I wise and far-seeing American medical officers in France realized that a greater menace than the Germans to American soldiers in France was the danger of contracting syphilis and gonorrhea from French prostitutes who swarmed around military camps—and they were welcomed and encouraged by the French Army. Be it said to the credit of General Pershing and his staff at General Headquarters in Chaumont, they did everything possible to protect American soldiers from contracting venereal diseases.

Major-General James W. McAndrew, Chief of Staff, by command of General Pershing, Commander in Chief of the American Expeditionary Forces in France, in G.H.Q. Bulletin No. 54, outlined the policy of the A.E.F. as follows: "In the majority of cases drunkenness precedes and leads to exposure to venereal infection. Throughout the A.E.F. all houses of prostitution, as well as saloons indulging in the improper sale of intoxicants to the members (soldiers) of the American Expeditionary Forces in France will be designated as "off limits." Commanding officers will adopt the necessary means and disciplinary measures to prevent soldiers from visiting them."

Surely it seems that President Roosevelt, Secretary of War Stimson, Secretary of the Navy Knox, and the General Staff of the United Army and Navy should profit by the wisdom of President Wilson, Secretary Baker, and Secretary Daniels and the general staffs of the Army and Navy who conducted World War I so successfully.

ALCOHOL AND THE HOME.

I will not drink beer, wine, whiskey or other alcoholic beverages because they are mortal enemies of monogamous marriage. Judge Murphy of the Court of Domestic Relations in Birmingham found, after careful investigation of 5000 suits for divorce, non-support and delinquent children, that 3500 of them could be traced to alcoholic intemperance by the husband, or wife, or both. In other words, 70 per cent of matrimonial wrecks result from drinking, which began with the social glass.

There is no reason for more broken homes and poverty in Birmingham than in any other city in the country. It just happened that Judge Murphy was one of those rare lawyers, who sought truth and who had the courage to tell the truth about the ravages of alcohol.

There are no statistics of value for illegitimacy rates in the United States; but one or two, or more bottles of beer, or the equivalent amount of ethyl alcohol in wine or whiskey and a boy and a girl, or a man and a woman, in an automobile, or hotel, night club, road house, tourist camp, or other rendezvous late at night, make up a perfect setting for throwing out discretion. "Familiarity breeds confinement."

The charming editor of a column for the "lovelorn" tells of a letter she received from a girl who wrote: "My sweetheart and I had four or five cocktails and stayed out in his automobile until four or five o'clock in the morning. Did we do anything wrong?" The editor's laconic reply was: "Very probably."

It is strange that mothers and fathers have so little sense that they try to teach moderate drinking, by precept and example, to their adolescent sons and daughters.

Supporting the Liquor Traffic.

I will not drink alcoholic beverages for the reason that by so doing I am supporting, with my influence and my money, an industry that destroys the manhood and womanhood of America, at a time when every person in the nation is needed for war work in some capacity.

An indictment of the liquor traffic by the lamented Henry W. Grady, the great Georgia editor and part owner of the *Atlanta Constitution*, should be read by every man and woman in the United States at this time when greedy and arrogant brewers, distillers and owners of liquor newspapers dominate the nation.

Grady said:

> "Tonight the liquor traffic enters a humble home to strike the roses from a woman's cheek and tomorrow it challenges this republic in the halls of Congress. Today it strikes a crust of bread from the lips of a starving child and tomorrow levies tribute from the government itself.
>
> There is no cottage humble enough to escape it, no place strong enough to shut it out. It defies the law when it cannot coerce suffrage. It is flexible to cajole, but merciless in victory.
>
> It is the mortal enemy of peace and order, and the despoiler of men and terror of women, the cloud that shadows the faces of children, the demon that has dug more graves and sent more souls unshrived to judgment than all the pestilences that have wasted life since God sent the plagues of Egypt, and all the wars since Joshua stood beyond Jericho.
>
> It comes to ruin, and it shall profit mainly by the ruin of your sons and mine. It comes to mislead human souls and crush human hearts under its rumbling wheels.
>
> It comes to bring gray-haired mothers down in shame and sorrow to their graves. It comes to change the wife's love into despair and her pride into shame. It comes to still the laughter on the lips of little children. It comes to stifle all the music of the home and fill it with silence and desolation.
>
> It comes to ruin your body and mind, to wreck your home, and it knows it must measure its prosperity by the swiftness and certainty with which it wrecks this world."

I am a citizen, one of the humblest of 130,000,000 people in the United States, and as one who wants to help win our war against the two worst enemies of mankind, i.e. Hitler and alcohol, I will abstain from the use of beer, and all other alcoholic beverages for the duration of the war—and for the rest of my life.

The estimated weight of our entire planet is six sextillion, 600 quintillion short tons. This does not include the atmosphere, which weighs more than five quadrillion short tons.

Preanemic Subacute Combined Degeneration of the Spinal Cord—A Case Report*

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VERY SEVERE neurologic manifestations from subacute combined degeneration of the spinal cord with a relatively normal blood picture is rare. Because of the lack of association with a grade of anemia that seems comparable to the severity of the nervous system findings, it is likely that a goodly number of such cases are wrongly diagnosed as tabes dorsalis, multiple sclerosis, etc. The matter of accurate diagnosis is one of great moment here since the progress of the disease and the actual life of the patient depends upon *early* diagnosis and *adequate* treatment in order to arrest the progression of the central nervous system lesions.

Subacute combined degeneration of the spinal cord is a degenerative disease of the central nervous system, affecting principally the posterior and lateral columns of the spinal cord. It is characterized by a combination of motor and sensory disturbances such as ataxia, paraesthesias, spasticity, absence of vibratory sense, reflex changes, with gastric anacidity and as a rule other signs of pernicious anemia. The exact etiology of these neural changes is not known, and it is a moot question as to whether a toxic or metabolic product causes the damage or if possibly a type of deficiency or improper utilization exists, as for example vitamin B. It is established that some of the nerve cells are only temporarily affected because prompt and sufficient treatment with liver extract results in an abeyance of symptoms. This leads to the conclusion that the symptoms depended on edema and/or irritation of the nerve centers or tracts preceding the stage of actual destruction, because once permanent structural damage has been done to the central nervous system, no amount of therapy will induce regeneration and return of function.

Sanford[1] reports three cases of women with severe neurological involvement and normal blood pictures with absent free hydrochloric acid in the gastric contents. These patients all responded to liver extract therapy. Russell[2] reports two cases of postero-lateral sclerosis without anemia; in one case the red blood cell count two days before death was 4,500,000 and hemoglobin 90%. Farquharsen and Graham[3] express the opinion that liver therapy arrests the progress of existing nervous system changes, and in many instances results in marked improvement in the signs and symptoms. They also point out that the amount of liver adequate for satisfactory treatment for the anemia may not be sufficient for the neurologic symptoms. Farquharsen[4] believes these patients with severe neurologic involvement should receive at least twice as much of the active liver substance as those without central nervous system involvement. Mills[5] does not believe that it is possible to define the amount of liver extract required for adequate treatment and the treatment should be guided by three fundamental rules; (a) keep noraml erythrocyte count at all times. (b) The modal erythrocyte diameter must be at or below the normal value—macrocytosis indicating inadequate treatment. (c) Therapy must be changed to meet the individual needs of the patient. In discussing the outcome of the seven-year period of the treatment of 45 cases of pernicious anemia, Mills states, "a comparison of results in the adequately and inadequately treated groups leaves no doubt as to the efficacy of treatment in controlling combined system disease if therapy is pushed to the point where the patient is symptomatically well and his blood is morphologically normal. The penalty exacted by the disease for carelessness in treatment is severe and often without retrieve. Of the seventen inadequately treated patients 82% were functionally disabled and one third of them dead, as compared with no deaths and 10.7% partially disabled in the adequately treated group."

Strauss and Castle[6] found that there were no symptoms of progression of the spinal cord symptoms in a group of 20 patients who had received sufficient parenteral liver therapy.

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The writer is in agreement with these views as opposed to those of Curschmann[7], Krause[8], Needless[9], Grinker and Kendal[10] and Fried[11] who believe that liver is not instrumental in improving or preventing degeneration of the central nervous system.

CASE REPORT

Mrs. O. C., 41-year-old white female of German extraction was first seen on March 3, 1941. The chief complaint was marked staggering while walking for the past six months. One month previously the staggering had progressed to falling. She now fell sprawling several times a day and required the support of the wall to get about the house. An interesting comment was that for the past few months she had not been attending church because when she knelt and closed her eyes she fell over in the seat.

Her past history revealed that she had undergone a complete hysterectomy in 1935 the reason for the operation being unknown. She had suffered practically no true menopausal symptoms but for the past few months had been treated with estrogenic hormone without benefit. She had a very severe colitis with chills and fever in August of 1938 which hospitalized her for several weeks, her blood picture at this time being normal except for a leukocytosis. Prior to this she had suffered occasional diarrhea since 1937. She had been overweight for ten years. In June, 1940, she noticed slight soreness of her mouth and tongue, some slight numbness of her fingers and toes all of which lasted for two months and disappeared and have not reappeared up to the present time. Progressive weakness began in June of 1940 and her usual household duties were impossible for her at the time of her initial visit. In October of 1940 she first noticed a gait disturbance, that is, her legs would sometimes "give away" and they had a feeling of stiffness. These complaints gradually became worse and she developed ataxia, paraesthesias of the lower extremities and dribbling of urine. She became quite nervous, depressed, melancholy, irritable, mentally confused and had frequent spells of crying.

EXAMINATION: This revealed a well developed, obese white female with prematurely white hair (a finding not unusual in pernicious anemia) an exceptionally good color to her skin and mucous membranes. The general physical findings were essentially negative except the neurological findings which were checked and confirmed by Dr. Nichols Gotten of Memphis, Tennessee, and reported as follows: "The cranial nerves are normal. The reflexes in both the upper and lower extremities are greatly increased, and there are bilateral Babinski reflexes. The muscle tone is increased and there is some spasticity. The Romberg test is markedly positive. The sensory tests reveal a loss of vibratory perception and position sense in both lower extremities." The blood pressure was 180/100. The basal metabolic rate MINUS 23.

HEMATOLOGIC FINDINGS:

Total Red Blood Cell Count	4,000,000
Hemoglobin	16 Grams.
White blood cells	7,400
Cell volume	47
Mean corpuscular volume	117
(Normal 80-95 cubic microns.)	
Mean corpuscular hemoglobin	40
(Normal 27-32 micromicrograms.)	

Mean corpuscular hemoglobin concentration 34% (normal 35).

The stained smear revealed macrocytosis, moderate anisocytosis, no poikilocytosis, few nucleated reds seen. Differential essentially normal.

Blood Kahn negative.

Blood Wassermann negative.

GASTRIC ANALYSIS

Fasting	0	0
Histamine base		
Histamine base .5 mg. subcut.		
½ hour	0	0
1 hour	0	3
1½ hours	0	4

Lumbar Puncture

Normal pressure, normal Queckenstedt, normal cell count, negative globulin, spinal fluid Wassermann and Kahn negative.

Treatment was instituted at once and consisted of liver extract (Lederle) 3 cc.intramuscularly every other day for two months, then twice weekly for one month. On June 17, 1941, the blood picture was as follows:

R.B.C. 4,500,000
Hgb. 18 Gms.
Cell volume 50
M.C.V. 111

M.C.H. 40
M.C.H.C. 36

Therapy also consisted of dilute hydrochloric acid, ventrex, thyroid, and weekly injections of 10,000 units Vitamin B$_1$ as suggested by Murphy[12]. The response to liver therapy was phenomenal. Within 4 weeks definite improvement was noted in that she had ceased falling, although the ataxia was present. Within six weeks she no longer staggered when she walked. This improvement was accompanied by a general feeling of well being, a cessation of melancholy and crying spells, resumption of household duties with a definite increase of strength and endurance. Her improvement has continued to be on the upgrade and she is now capable of doing all her household duties and has not fallen down since one month after the treatment began. Recently Dr. L. L. Sebulsky of Memphis has been looking after her and his latest report is as follows: "The liver extract (10 units) is given weekly now and the ventrex and hydrochloric acid are being continued. On February 6, 1942, a check-up revealed a diminution of the vibratory sense in the lower third of both legs, hyperactive deep and superficial reflexes, suggestively positive Babinski Romberg negative, positive sense normal. Blood check revealed.

R.B.C. 4,390,000
Hgb. 14 Grms.
W.B.C. 8,950
  Polys 66%
  Lymphos 30%
  Monos 3%
  Eosin 1%
Cell Volume 43
M.C.V. 97
M.C.H. 31
M.C.H.C. 32

A study of the stained smear revealed a slight but definite anisocytosis, no nucleated reds, and no early form polys.

SUMMARY

1. A case of severe subacute combined degeneration in the spinal cord in the preanemic phase is presented.
2. Marked improvement in all symptoms is noted.
3. The prevailing views regarding efficacy of liver extract in the treatment of this complication are discussed.

CONCLUSIONS

1. Cases of severe central nervous system involvement by combined system disease can exist in the absence of an anemia, and may be benefited by adequate liver therapy.
2. Severe symptoms do not mean that permanent damage has been done to the cells of the spinal cord, but that due to some toxin or lack of utilization of some essential substance the cells are impaired in their function, but can be returned to normal under proper therapy.
3. Liver extract should be given in large doses, at frequent intervals, and continued indefinitely.
4. The liver extract should be supplemented by the gastric factor, dilute hydrochloric acid, adequate diet and thiamin chloride.
5. The decrease in the mean corpuscular volume and the mean corpuscular hemoglobin is of prognostic significance.

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Maternal Care In Jones County*

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FOR SOME TIME public health workers in Mississippi have been interested in developing services for the improvement of the care of mothers and infants in the state. It has become apparent that to secure the greatest effectiveness for maternity and child health, the activities of the health department should be coördinated with the maternity and infant care offered by private physicians.

In the fall of 1936 arrangements were made, at the request of the State Department of Health, for Dr. Maxwell E. Lapham, then conducting a postgraduate course in obstetrics for physicians within the state, to study maternity care in all of its phases in Pike County located in the southern part of the state. The plan of study was presented to the local physicians and endorsed by them, and through their active participation what is believed to be a very accurate picture of the obstetrical practice in that county was made possible.

In 1941 a plan of study similar to that conducted in Pike County was presented to the physicians of Jones County and endorsed by them. Instead of Dr. Lapham interviewing the physicians and assembling the material for study, it was agreed that the Jones County health officer do this work under the supervision of Dr. Lapham, who was until most recently located in New Orleans as dean of Tulane University Medical School. Because Dr. Lapham is now on active duty in the Navy it was impossible to have him review the material in its completed form and make his recommendations. However, Dr. Maude Gerdes, another experienced and well trained obstetrician who is now director of Maternal and Child Hygiene of the Mississippi State Department of Health, has carefully studied all the assembled material and collaborated in the preparation of this paper. We have made the study primarily from the health administration standpoint, rather than from the standpoint of satisfactory or unsatisfactory type of medical service given by individual physicians. The study is madè of births and deaths which are associated with maternity and which have occurred in Jones County during the four years from 1937 to 1940 inclusive.

The personnel rendering maternity services in Jones County differs very little from that of many of the other largely populated counties of this state. Thirty-one doctors and fifty-five midwives attended over 99 per cent of the deliveries during the four-year period covered by the study; hospital and private duty nurses and nurses privately employed by physicians assisted in the antepartum and postpartum care, and midwives usually did the job at the time of delivery unassisted. There were two hospitals in which 26.5 per cent of the deliveries occurred during the years 1937-1940 inclusive, and the other 73.5 per cent occurred in all kinds of homes throughout the county.

As a group the physicians were well trained, and the group giving attention to over 90 per cent of the white patients in the county were men who had experienced either some special maternity training, had selected obstetrical services during an internship, or had enjoyed a sufficiently long and useful experience to assure them rendering safe care. For the colored population there was a decidedly different picture. There were three colored physicians who attended 6.3 per cent of the colored births. Approximately 55 midwives attended 85.4 per cent of the colored births and the white doctors of the county attended the remaining 8.3 per cent. The midwives in Jones County are probably the same as those found throughout the state. None has had special midwifery training in a school for midwifery. All just "picked it up" by going with a midwife for a while or by going with a physician on a few cases. This method of training for midwifery is no more satisfactory than was the same method for training physicians, and we all know that this was abandoned almost a century ago.

There are two hospitals in Jones County—both located in Laurel. The South Mississippi

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Charity, although it has about 100 beds, can use only about 60 because of limited financial support. There are approximately 14 beds set aside for maternity cases, 8 white and 6 colored, and there are approximately the same number of bassinets. For the white patients there is a maternity ward adjoining a separate infant ward, both well isolated from the other part of the hospital. There are separate delivery rooms for whites and blacks. The white delivery room, maternity ward, and infant ward are all of modern equipment and arrangements, and indeed reflect credit to the hospital and the state. The great criticism is that these facilities are capable of caring for only about one-fifth or one-tenth the number of patients for whom facilities should be available.

The other hospital is a private institution and although it has a well equipped delivery room, it does not have separate beds isolated from the rest of the hospital and for use of maternity cases only. The total bed capacity of this hospital is about 50. Here again there is lacking the facilities which should be available for the number that need to be cared for in the hospitals. All of these 50 beds in this one hospital could be kept filled with maternity cases alone.

Since physicians attended 68.9 per cent of the deliveries in Jones County from 1937 to 1940, 100 of these cases were selected for review in this study. These 100 cases may be considered to represent two-thirds of the births in this period, and were selected in this manner: Twenty-four of the physicians who had attended the deliveries in the twelve-month period prior to the study were asked to give sufficient case histories of their most recent deliveries to make a total of 100 cases. The 100 cases were prorated according to the total number of deliveries each of the 24 physicians attended in the year prior to the study. The number of case histories obtained from each physician varied from 1 to 17. Of the 100 patients, 92 were white and 8 Negro. That seems a fair distribution since 6.7 per cent of the patients delivered by physicians in Jones County in the four-year period were Negro.

Eighty-five of the patients received some medical antepartum supervision. Fifty-eight of the group were seen before the fifth month, 27 were seen after that period, and 15 were not seen before labor began. Nursing care by the health department was given to 10 of these 100 cases and only one of the 10 was seen before the fifth month. Ninety patients received no nursing care at all because the nurse was not notified of the case by the physician. The average number of medical visits to patients seen before delivery was 7.7 per patient and the average number of nursing visits was 3.7. This represented good medical service for those cases who had medical antepartum service.

The study of 100 current cases reveals that too few histories were taken and consequently not enough is known about previous medical, obstetrical, and surgical complications which may have a bearing on the current case. Physical examination was made on 85 patients and pelvic examinations on 68 patients. Pelvic measurements were taken on only 35 of the group, of which 9 were primiparae and 26 were multiparae. Only 40 patients had Wassermanns taken, and of those who were tested the proportion of positives was sufficiently high to warrant a more routine application of this procedure. Of the 40 Wassermanns taken, 37 were negative and 3 positive (the latter were all Negro), and only two of the three women who had positive Wassermanns received treatment. The one who was not treated delivered a stillborn baby.

Major complications occurred during the pregnancies in nine of these 100 patients. Apparently six of these patients received adequate care by the physician after the complication developed. It is significant to me that our study of 100 cases attended by physicians revealed that 58 per cent were seen by the physician before the fifth month of pregnancy. The stillbirth rate in this group was 34 per 1000 births and in the combined group seen after the fifth month or not seen at all during the antepartum period was 95 per 1000 births. The neonatal death rate in the group seen before the fifth month was 17 per 1000 births and 71.4 for the group seen after the fifth month. Of the group seen before the fifth month the premature rate was 17 per 1000 births whereas this rate was 95 for the group seen after the fifth month. Only six per cent of the cases seen before the fifth month had major complications of pregnancy while 12 per cent were found with complications in the group seen after the fifth month. In the group seen before the fifth month only 8.6 per cent had major complications at delivery while 19 per cent were complicated at delivery in the group seen after the fifth month.

A review of the stillbirths for the four-year period covered by the study revealed the following picture: Physicians attended at delivery 132 or 64.1 per cent of the 206 stillbirths. They gave antepartum medical care to 84 or 40.8 per cent of the total cases, but of the 84 cases whom they saw during the antepartum period they delivered only 57. In other words this means that only 27.7 per cent of the stillbirth cases had both antepartum and intrapartum medical care. Only 25 patients or 12.1 per cent of the total stillbirth cases had antepartum medical care before the fifth month of pregnancy. (This is only 29.8 per cent of the cases having an antepartum medical care.)

Midwives attended 74 deliveries of stillbirths or 35.9 per cent of the total cases. Only 27 or 13.1 per cent of the total stillbirths had antepartum medical care with midwife attendant at delivery, and this means that only 36.5 per cent of the 74 cases delivered by midwives had any amount of antepartum medical care. Only 4 of the midwife cases were seen by a physician before the fifth month of pregnancy.

There were 122 stillbirths, or 59.2 per cent of the total, that had no antepartum medical care at all. Seventy-five of these were attended by physicians and 47 by midwives. This represented 56.8 per cent of the stillbirths attended by physicians and 63.5 per cent that were attended by midwives.

Physicians attended 3264 births during the four-year period studied. One hundred thirty-two of these were stillbirths, making a rate of 40.4 per 1000 births. If we subtract the 75 the physicians delivered but gave no antepartum care we find they have a stillbirth rate of 17.9 for the remainder of the births attended. Midwives attended 1476 births during the four-year period of which 74 were stillbirths, giving a rate of 50.1. No one could assume that the physician could prevent stillbirths in the cases delivered by the midwives and one should assume that the physician could prevent stillbirths in a group having no antepartum care even though delivered by a physician. Combining these two groups of 1476 and 75 making a total of 1551 deliveries, we find 149 stillbirths occurred with stillbirth rate of 96.1. Should we go further and assume that the physician is not responsible for the outcome of the pregnancy unless he gets the patient before the fifth month of pregnancy, we find that 36 more should be erased from his side of the ledger. This would give him a stillbirth rate of 6.7 per 1000 births and the group not seen by the physician before the fifth month a rate of 116.6 per 1000 births, or a rate of 17 times greater. Thus it appears that for every stillbirth occurring in patients seen by the physician before the fifth month and delivered by him there will be 17 stillbirths among those patients who either did not see the physician at all or did not see him until after the fifth month.

Now what was found in the study of the neonatal deaths occurring in the four-year period, 1937-1940? Physicians attended at delivery 98 or 62 per cent of the 156 infants who died during the neonatal period. However, of these 98 deliveries the physicians gave antepartum care to only 40 mothers, less than one-half the number attended, and of these 40 who had antepartum service less than two-thirds of them were seen before the fifth month. Therefore, only 25.6 per cent of the total 156 neonatal deaths had medical care during the antepartum and intrapartum periods. The neonatal death rate in this group was 12.4 per 1000 births.

The midwives attended 58 or 37.2 per cent of the deliveries in which neonatal deaths occurred. Sixteen of these midwife cases had some antepartum medical care, two of which were seen before the fifth month of pregnancy; the remaining 42 had no medical care whatsoever during the antepartum period, although four of the cases consulted a physician during the postpartum period and before the infant died.

If we assume the same line of reasoning with the neonatal deaths that we did with the stillbirths as to the controllability of such deaths, we arrive at a neonatal death rate of 75.6 per 1000 births for those cases who either had no medical antepartum or intrapartum care or having some antepartum care were delivered by a midwife. This rate is six times greater than the rate for the cases having antepartum and delivery care by a physician. And, if we exclude from the physician's responsibility the deaths occurring in those cases who did not see him before the fifth month of pregnancy, the neonatal death rate is still further lowered for the doctor to 7.8 per 1000 births as compared to 84.6 in the other group who either did not see him at all or did not see him until after the fifth month. In other words for every neonatal death occurring in the group with adequate medical care there were 10 deaths in the combined group having either no medical care or inadequate medical care.

Of the 156 neonatal deaths, 106 were delivered in the home. This makes a neonatal death rate of 30.4 per 1000 home deliveries. There were 50 neonatal deaths that occurred in hospital deliveries with a death rate of 39.9 for these cases. On the face of this it looks bad for the hospitals, but if we turn back the curtain again and consider this from the standpoint of antepartum medical care we see a different picture. Only 16 of the 50 mothers who delivered in the hospital had any kind of antepartum medical care and for these we find a neonatal death rate of 13.1. There were 34 mothers of the neonatal deaths that were seen by the physician for the first time when she was admitted to the hospital. The total neonatal death rate for this group studied was 34.4. With hospital care combined with adequate medical care during the antepartum and intrapartum period we could reasonably expect about a two-thirds reduction in our neonatal death rate.

There were 31 maternal deaths, 16 white and 15 black, during the four-year period, but it was impossible to get any information at all on one except that it was a white woman 18 years old who died in the home with cause of death given as pregnancy with nephritis. The study is therefore of necessity primarily based upon 30 deaths, and except where total rates are concerned all statements are relative to the 30 deaths.

All the cases which resulted in maternal deaths were seen and treated by physicians, but only 15 or 50 per cent were seen during the antepartum period and of these only 5 were seen before the fifth month of pregnancy. There were six cases referred to a physician by midwife, two of which were sent to the hospital. Three cases were unattended at birth, two of which were probably criminal abortion, and the other was seen only the day before delivery by a colored medical physician and died in eclampsia the next day without further attention. Assuming that the physician should be held responsible for only those. seen by him during the antepartum period and delivered by him, we find the maternal death rate for physicians' cases to be 4.6 per 1000 births and if we go further and say he is not responsible unless he sees the case before the fifth month, he has a maternal death rate of 1.5 per 1000 births. Then for the combined group not seen by physicians before the fifth month and not delivered by him we have a maternal death rate of 16.7. Thus for every maternal death among patients delivered by physicians and given adequate antepartum care by him there were 11 deaths among patients not having this care.

The causes of death among the group not seen by physicians during the antepartum period were as follows: ectopic pregnancy, abortion, shock, prolonged labor, puerperal infection, acute pulmonary edema, placenta praevia, apoplexy, eclampsia, pneumonia, nephritis of pregnancy, and postpartum hemorrhage.

Complications during the antepartum period were recorded only in those cases seen by physicians during that period. Nothing is known regarding complications among the other 50 per cent. The complications recorded by physicians were edema, threatened abortion, pyelitis, contracted pelvis, nephritis, heart disease, eclampsia, endocarditis, and varicose veins. There is every reason to assume that, in the main, these complications were combatted in good fashion. Only one patient failed to get postpartum medical care and this was a hospital case that died of hemorrhage.

I would like to have been able to include in this report to you much more of our findings. For example, I could give you a very interesting discussion on causes of death assigned after the study. Exactly one-half the neonatal deaths were listed as due to prematurity and, except for 2 or 3 that were changed to syphilis, practically all of these cases remained with prematurity as the only cause that could be assigned. In a majority of the stillbirths no cause was given, usually it was listed as unknown. In practically all of these the study revealed a probable cause. This indicates that in practically all cases of stillbirth if just a little study and effort is made on the part of a physician a fair conclusion can be reached as to the cause of the stillbirth. In all the maternal deaths a cause was given and in very few instances was this given cause changed as a result of the study. This indicates that the physician gives more thought and probably effort to determine the trouble in the mother than he does for the infant or stillbirth.

This study reveals that there are two main factors which contribute largely to the major maternity problems in Jones County, namely: (1) educational status of certain groups of individuals , and (2) economic conditions.

1. The Educational Status of Certain Groups of Individuals: Knowledge of effective procedures can have most favorable influence on a whole population only when it

is adequately disseminated. In Jones County this knowledge has not been adequately disseminated among physicians or nurses, and even less among large groups of the lay population. By this I mean physicians, nurses, and the lay groups have not known how adequate maternity services can be administered to large groups of the maternity segment of the population.

This study has shown that there are three major factors involved in the prevention of deaths associated with maternity, namely: the obstetrical attendant, the patient, and the community. It was found that over half of the preventable stillbirths and of the neonatal and maternity deaths were considered to be due to neglect on the part of the patient or of the patient's family. The physician, the midwife, and the county health department shared the responsibility for the remainder.

It may be assumed that neglect on the part of the patient or patient's family is usually due to lack of sufficient knowledge concerning what is necessary maternity care. On the assumption that over 65 per cent of the deaths associated with maternity are preventable, and that half of these are due to neglect, we may conclude that 130 deaths occurred because of neglect or from lack of effective educational procedures concerning maternity care. An approximately equal number may, by similar reasoning, be charged to the failures of the physician, the midwife, the county health department or the community. Among this group lack of training, skill, or knowledge was to a very considerable extent responsibile for the lack of effective care.

Public health administrators in all the Southern states have recognized the influence of ignorance upon maternity hygiene problems, and have pointed out many results of this lack of information about maternity and infant care. Patients fail to report for the necessary medical and nursing care early enough in pregnancy, and too often when seen fail to follow the instructions given them. Midwives fail to recognize serious conditions in sufficient time to call for the medical and nursing assistance that might save many lives. Even physicians fail too often to give the needed attention to mother and child throughout the maternity and neonatal periods. The appropriating bodies of the national, state, and local governmental units have failed to provide needed facilities and personnel for the proper care of maternity cases and newborn infants. These failures may, in large measure, be attributed to a lack of complete information on the part of the persons concerned, regarding maternity hygiene.

2. ECONOMIC CONDITIONS: We have found in this study that a large proportion of births were attended by midwives, that a comparatively small percentage of births were in hospitals, that a larger percentage of births were in rural than in urban areas, and that 31.6 per cent of all births were Negro. All of these factors are in themselves indicative that the economic status of this area is less favorable than in areas where these conditions do not prevail.

No Southern state has developed an effective program of medical care for the indigent. This is true also for the country as a whole. Until a program of medical care for maternity cases is in operation, poverty will continue to exert an unfavorable influence on maternity hygiene in a large group of the population of the South.

Time will not allow me to give you a more complete analysis of our findings in this study. A complete description is being composed and will be made available either in mimeographed or booklet form. I must sacrifice further discussion of our findings in order to have time to give to you our recommendations for improving maternity service in Jones County.

I believe the paramount finding was that there was definitely insufficient medical and nursing care in each of the antepartum, intrapartum, and postpartum periods. I think this study has shown that where medical and nursing care was adequate the final outcome of pregnancy was in the main satisfactory. Therefore, great effort must be made to increase the number of patients having this type of care.

Briefly, a plan or program must be envolved that will provide: (1) medical maternity service through private physicians or the health department; (2) closer supervision of midwives; (3) nursing supervision during the entire maternity period for as many cases as the community can afford; and (4) education of the public in the essentials of maternity and infant care. To coördinate the present medical and nursing facilities to the end that the most efficient care may be given to the greatest number of patients, there must be more coöperation between the family, the public health nurse, and the physician. In order to assure this greater coöperation the public health nurse must offer the physician a service he knows is worth while. Plans are now completed to have two public health nurses from Jones County to go to a lying-in hospital in Chicago for four months' training in home delivery nursing service. This service is no longer an experimental one in this state. It has been demonstrated in Pike County that this is a service doctors and expectant mothers alike appreciate, and it is economically within reach of the average county.

It has already been demonstrated in Jones County and perhaps in other counties that satisfactory delivery services can be provided in physicians' private clinics. During 1941 two physicians provided facilities in their private clinics for caring for maternity cases. But again the facilities and space are not sufficient to care for the number that would come in if space and facilities were greater. This type of service has for decades been carried on in other states under the name of maternity homes. We can establish more of this type of service in Jones County both in private clinics and as a semi-private or publicly operated maternity home.

It is also not hard to believe that it is possible to build and equip a small maternity home in strictly rural areas in Jones County, such as Soso, Sandersville, and Moselle, and to enlarge the facilities already established in Ellisville and Laurel. When the public health nurses return from their period of training in Chicago, they will be available not only for service with the physician in the home but with the physician in the clinic or in the maternity home if he desires their services there.

There is now a surplus of beds in the South Mississippi Charity Hospital located in Laurel. By this, I mean there is room for about 30 more maternity patients in this hospital than there is money available to care for them. Effort will be made in the near future to make some of these beds available for use if funds can be raised to finance the necessary care.

If such a program as I have outlined can materialize in the not too distant future in Jones County, and it is believed that it can materialize, the outlook for improving maternity care in Jones County is good for the white patients. However, there are each year about 374 negro births in this county now being attended by midwives. It has been shown that our greatest number of maternity casualties are occurring in our negro race and primarily among those depending upon the midwife for antepartum, intrapartum, and postpartum care. Therefore, it is necessary that this bottle-neck be opened. This can be done.

In other states, more especially Kentucky and Maryland, it has been definitely established that the nurse-midwife is a safe and economic attendant at birth for the usual normal maternity case. It is not beyond reason to believe that a well trained negro nurse-midwife could be employed by the Jones County Health Department as a full time employee. Her duties will be to attend as many deliveries with local midwives as it is possible for her to do. At the same time, young promising negro girls, with acceptable preliminary training can observe the work of this nurse-midwife and be taught midwifery by her. In due time there should be midwives who can at least read and write and will be trained along more modern methods of midwifery practice.

It is confidently believed by many who have been associated with the development of maternity and infant services in the South, that there is no other field of public health activity where more lasting results may ensue, where better and more complete coöperation of the medical profession may be had, or where the public health worker's effort is more greatly appreciated, and this appreciation more sincerely expressed by the public.

More attention has in recent years been given to the protection of mothers than to the offspring. With a continuance of definite improvement in maternity care and greater improvement in the care of the newborn infant, it is believed, there will follow as significant a decrease in the number of stillbirths and of neonatal deaths as has taken place in regard to the deaths of mothers.

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DISCUSSION

DR. MAUDE M. GERDES (New Orleans, La.)—The study of maternal care in Jones County has been revealing. There is too little time to go into discussion of any one or all of its findings. The complete results will be made available later and deserve study. Approximately 89 per cent of the births in Mississippi are delivered in the home. We have for a long time been faced with the problem of inadequate medical care for about 50 per cent of our

52,000 births annually.

We are now faced with an emergency which adds to our problem. Communities are losing physicians and nurses to the armed forces. The problem of providing good medical and nursing care for our mothers and babies offers special difficulties which are now, more than ever, calling for solution. The important thing now is to determine an intelligent course of action within the means at our disposal. This course of action must embody methods whose value has already been demonstrated and must be one that looks toward continuously improved facilities in communities not properly equipped at present. Since more than one-half of all puerperal deaths are due to causes incident to labor and delivery, the provision for safe care at the time of delivery becomes essential if good maternal care is to be maintained. Suggested programs have been outlined in the two preceding papers.

There is a need for home delivery nursing service for Jones County. There is a still greater need for this service in other counties in the state. But because nurses are not now available this need cannot be met on an extended basis. For the present we will have to consider this type of service which is being rendered in Pike, and being instituted in Jones County, a demonstration service. Development of new techniques and improved procedures will be continued. Administrative details will be perfected so that in the future this type of service can be extended to other counties in the state.

At the present, obstetrical kits and means of sterilizing the contents are available in 32 counties in the state. These kits are available to physicians for home deliveries. The average replacement cost per case is about 50 to 60 cents. In one county the kits are maintained by a local hospital. Student nurses accompany the physician on delivery.

Varied plans of action may be necessary if physicians continue to be withdrawn from communities, particularly in areas without hospital facilities. Physicians' time will have to be conserved. Therefore more women must be delivered in hospitals or maternity homes equipped to provide at least a clean home delivery. These homes may have to be staffed with practical nurses, nurses' aids, household aids, and or midwives.

A trained nurse-midwife program may have to be developed to provide supervision for untrained midwives. This latter group delivers over 50 per cent of the births each year in this state.

Nurse-midwives are being taught in schools of midwifery to render antepartum care including examination, as well as to deliver normal cases. As an obstetrician I cannot recognize this as a safe procedure, unless there is a specially trained consultant and a well equipped hospital available.

Complications are inevitable and must be planned for. Whether a delivery occurs in the hospital or in the home, skilled medical and nursing care must be provided if human lives are to mean anything to us. We cannot accept "ersatz" when it comes to providing for the future of our nation.

Dr. Sidney J. Williams (McComb) — The risk of maternity in Pike County has been responsible for approximately 60 deaths a year during the past ten years. Included in this number are stillbirths, puerperal deaths, and deaths of infants in the first month of life. Information is available for only three years prior to 1931. The average number of deaths was 82 per year. When converted into deaths per 1,000 total births, the rate for 1928-30 is 104.5 and for 1931-40 it is 78.0. There has been a 25 per cent drop in this mortality since the Health Department was organized. From the beginning the Health Department has been intensely interested in the welfare of mothers and infants. During the first five-year period an average of 27 per cent of the total births had supervision by the department and in 1940 the proportion was 80.4 per cent.

When first organized, the department's program for maternity service consisted entirely of antepartum and postpartum nursing service. Nursing service to antepartum patients consisted of checking blood pressure and temperature, collection of urine specimens for examination, educational work with regard to diet, exercise, rest, elimination, clothing, and the need of adequate medical care. The necessary preparation for delivery was discussed, symptoms of possible complication were outlined. In 1933, the collection of blood for diagnosis of syphilis was added to the nursing service and arrangements made to secure treatment for those found to be positive.

Recently the antepartum clinic services of the department have been improved with the aid of an obstetrician from the State Board of Health working with the local physicians.

This has developed increased interest on the part of physicians and has stimulated some patients who were planning to use a midwife for delivery to select a doctor. The fact that the department will provide delivery nursing service encourages physicians to accept some of these cases.

In 1937, a survey of maternity care facilities of the county was made by Dr. Lapham, and local physicians were stimulated to a greater interest in this field. The high percentage of maternal, stillborn, and neonatal deaths as revealed by the survey to be preventable, suggested the desirability of developing a delivery service in the county as an aid to physicians in the care of patients in the home.

Such a service was set up in 1938 and is available to any case in the county, without cost, at the request of the physician carrying the case.

Briefly, the program works like this: A case in which the service is to be used is registered by the physician with the Health Department, and antepartum nursing service is rendered. Two nurses are on call constantly for deliveries. When the patient calls the physician, the physician then calls the nurse who goes with him, or meets him at the home of the patient. The nurse carries with her bags containing all the necessary sterile linens, drapes, basins, etc., needed for the delivery and which are furnished and serviced by the Health Department. The nurse prepares the patient for delivery and assists the physician as he directs, and when the delivery is completed leaves with the physician. A postpartum visit is made by the nurse within the first 24 hours, and thereafter as conditions indicate, but at least twice more in the first ten days, reporting findings to the patient's physician.

The first year the home delivery nursing service was in operation it saw 286 deliveries; or 75.1 per cent of all home deliveries attended by physicians using this service.

In 1941 these figures had increased to 352 deliveries, representing 87.2 per cent of all home deliveries attended by physicians.

This delivery service is supplemented by the clinics operated at three points in the county at which mothers who might use midwives at the time of delivery, or who are referred by physicians, receive antepartum and postpartum medical supervision. One of the outstanding features of the maternal hygiene program is the consistent decline in the number of deliveries attended by midwives and the corresponding increase attended by physicians. To be more specific, in 1937, the year before the home delivery nursing service was inaugurated, 333, or 42.3 per cent of deliveries were attended by midwives. In 1941 this figure had decreased to 264, or 30.0 per cent.

This service was started by a grant from the Commonwealth Fund with take-over by state and local funds beginning in 1940, to be completed in 1943. That the people and physicians of Pike County approve the service has been demonstrated by the county imposing an additional ¼ mill tax levy to continue this program.

The experience as to deaths due to maternity since inauguration of delivery service is as follows:

VITAL STATISTICS FOR 1939, 1940, 1941

		Total Births		*Still-Births*		*Maternal Deaths*		*Neonatal Deaths*		*Infant Deaths*	
			(Live Births	No.	Rate	No.	Rate	No.	Rate	No.	Rate
	Total	823	(799)	24	30	2	2.5	24	30.0	44	55.0
1939	Phys.	502	(487)	15	30.8	1	2.05	14	28.7	26	53.3
	H.D.S.	286	(280)	6	21.4	0	0	7	25.0	11	39.2
	M.W.	321	(312)	9	28.8	1	3.2	10	32.0	33	105.7
	Total	836	(806)	30	37.2	3	3.7	37	45.9	50	62.0
1940	Phys.	529	(511)	18	35.2	2	3.9	22	43.0	28	54.8
	H.D.S.	290	(284)	6	21.2	2	7.04	9	32.0	10	35.2
	M.W.	305	(293)	12	40.9	1	3.4	15	51.2	40	136.5
	Total	880	(844)	36	42.7	1	1.2	34	40.3	51	60.4
1941	Phys.	584	(559)	25	44.7	1	1.7	21	37.2	30	53.6
	H.D.S.	352	(341)	11	32.2	1	2.9	5	14.7	6	17.6
	M.W.	306	(294)	11	37.4	0	0	13	44.2	45	153.06
	Total	2539	(2449)	90	36.1	6	2.4	95	38.8	145	59.2
1939-	Phys.	1615	(1557)	58	37.2	4	2.5	57	36.6	84	53.9
1941	H.D.S.	928	(905)	23	25.4	3	3.3	21	23.2	27	29.8
	M.W.	932	(899)	32	35.6	2	2.2	38	42.2	118	131.2

All rates are per 1000 births.

DR. W. R. MAY (BROOKHAVEN)—We have not been so fortunate as to have had Commonwealth assistance, but living neighbor to Pike County where this program has been in operation makes the people of our county ask me as health officer why it is that Pike County can have these things and Lincoln can not. I know what we have done in Laurel can be done in any county. I can not give you statistics, except as Dr. Gerdes has told you we are having obstetrical kits equipped and kept at the hospital. If your hospital is like ours, the nurses get very little obstetrical training. After figuring how few cases they see in the hospital, I went before the staff of the local hospital and sold them on the idea of keeping these bags and equipping them and having them ready for the doctor at any time. We also sold them on the idea of allowing these girls in training to accompany the doctor on these cases, but I am sad to state that the suggestion has not been accepted by all of my physicians. Why, I can not see, because looking back to my days of general practice, if somebody had an obstetrical kit packed and a nurse ready to go along with me, it would have been my using that equipment rather than my own. However, the physicians who are making use of this obstetrical kit are tickled to death with the service.

If the average health officer feels as I do, if we could get rid of midwives it would be the greatest thing on earth.

We had thirteen active physicians in my county, four have gone to the army, one is sick and two have moved, cutting us down to seven at present. Something must be done to help take care of these people. I plead quilty, as I think you will, that we have not spent as much time as we should with these midwives. I turn them largely over to the nurse, who has done the best she could. I have signed the papers and generally done very little, but I think the health officer is going to find himself in the crisis, and he had better wake up and do the best he can with what we have. I think the health officer pleads guilty again that he should give a better examination physically than he customarily has done in the past.

Then if we have this service to offer to the physicians, the bags and nurses and all equipment, then I think that we can give better antepartum and postpartum treatment. We are endeavoring so to do in my county.

DR. T. PAUL HANEY (closing the discussion) —I would like to say that Dr. May said just what I wanted to hear when he said people over in his county want this work. That is what I hoped for. I am proud of the fact that I had something to do with starting it in Pike, and I also want to emphasize what Dr. May said, that this is something you can reach. The Commonwealth gave a grant to Pike County to start this work, it is true, but this work can be started in other counties without a grant. It is only in Pike County that is was demonstrated and Pike has taken it over on its own.

I want to emphasize again that we must give careful attention to our midwives. I believe the solution is to train a few well and let them infiltrate this strength into the other groups and eventually I think we can have a group of better trained midwives. I thank you.

This is known and spoken of along the coast of Virginia, that the old sailors years ago preferred the water of the central lake in the Great Dismal Swamp for their stock of drinking water when starting on a long voyage. They found that their crews remained free of disease for longer periods than if well water were used. This water, brown with vegetable extractives, no doubt, contained appreciable quantities of vitamins.

The Mississippi Doctor

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Thanks to the Borden Company for utilizing space in our journal. It is a fact that Borden was the first to can milk, and canned it in Mississippi.

We are very grateful to every doctor who carries a professional courtesy card. Though the amount of income to the journal is small, it is very helpful, and the evidence of good will gives us much courage to go forward.

The doctors of the South will do their part both on the battlefield and at home. No section on the earth is so rich in democratic leadership as is the South. From the private soldier to General McArthur our men will be found in the front ranks.

You will read with interest the abstract from Dr. Seale Harris's paper, "Why I Should Abstain from Alcohol for the Duration." It is very fine. Men with patriotism should read it. The whiskey bill in all of its ramifications is more than this country or an other can afford at this time. Some men have better brain barriers than others to alcohol, but it slows action and accuracy in any one. The Allied Nations so far have been too slow and too inaccurate.

Now for a new test for a good result on fractures. Mrs. Z. G. sustained a right Colles's fracture on March 1, 1942. Along with the fracture there was some injury to the soft parts. On June 11, she came upon a rattlesnake near her home out in the country. She very promptly killed the snake with her right hand, took off the ten rattles and promptly sent them by her son-in-law to the doctor as an evidence of his good work in setting her arm.

In the July issue of *Life* you will find an article on the "Fighting South" which gives the South credit for much that it is due. We appreciate this in a national magazine that is so widely read. The Southern states have proved their resourcefulness and their value in every war in which they have been engaged. *Life* makes mention in the present war of Captain Kelly, Jr., of Florida, Lieutenant Nininger, Jr., of Georgia, General Douglas McArthur of Arkansas, and Brigadier General Pickett of South Carolina. Many real heroes from the South who fought in the Revolutionary War and the War Between the States are cited. General Jackson of the War of 1812 is not forgotten.

The doctors of the South are responding in fine order to the present call to service. Mississippi is coming up well even with the marked shortage she has. The doctors left at home in Mississippi and in the southeastern division of the United States have a special challenge. Total health assets should be the definite aim in mind of the doctors left to hold the lines in civil life at home. In a very large measure the South is the democratic arsenal of the world. It is doing its part well in producing new manpower. Let the doctors do their part to shape this manpower into the type of citizenship that is now demanded for world leadership in this war and in the peace that we hope may soon come. The medical profession can do more than any one other to produce a citizenship strong in body, mind, and soul; tolerant, adjustable; and determined to hold steadfast to the American way of life.

When the President announced that we are engaged in an "all-out war," it was hard to believe and to understand that it was to be everybody's war. "Business as usual" seemed to be the aim of every one. In fact, stepped-up business seemed to be the dream of most people. This was not surprising since business, with the masses, had been so well-nigh adjourned for a decade. Had we listened to the President and a few of our leaders who were wise and honest enough to see and to warn against the cataclysm that was approaching, how different the situation might have been. But politics and greed ruled the day. The United States had sufficient warning. Richmond P. Hobson told of the purposes and aims of Japan. Well do I remember his book and lecture, entitled "The Yellow Peril." No prophecy in Holy Writ was truer or more pointed. Still he was laughed to scorn. W. J. Bryan foretold, in graphic and dramatic way, the results that would certainly follow and result from our economic system if it should not be changed. He tried to show that only those who labor have the right to enjoy the fruits of labor. This, he taught, is a moral law that was laid down when man was exiled from the garden—"by the sweat of man's face shall he eat bread." While many labor the wealth of the world is in the hands of the few. But this does not prove that only the wealthy are parties to the national crime; for those who *would* accumulate wealth that is produced by the labor of others, are just as guilty as those who actually acquire the unearned increment. When the war clouds first spread over the world, I said, I did not believe that it would end until *all* the resources of the entire world should have been exhausted, until all the wealth of the entire world should have been consumed. Then and not until then will this terrible carnage and conflict end. We talk glibly of a war debt of two hundred billions of dollars for our nation. This is but a trifle of the real cost, in money, that we shall have to meet. Only those who *have* can pay. We talk calmly of inflation. Limited inflation, perhaps, is good and proper. But the inflation that I see is paramount to bankruptcy. Only a change in monetary system can cope with world-wide bankruptcy.

But the money cost of this war pales into insignificance when compared with the cost in blood and moral wreckage that will surely come. Everybody's war, yes, but particularly a doctor's war. Will the doctors fail? Only by sending all our strong young doctors (and many of the older ones with them) can our drafted soldiers be taken care of properly. Our supply of doctors is far short of our civilian needs and when the more vigorous are taken to the front, what will happen? Those who are slowing down by reason of encroaching age, must brace themselves for the hardest work of their lives. They must work until they fall in harness. There may be some who rebel, who say they have labored long and hard and are now entitled to rest. There may be civilians who say they too are growing old and will need more care in old age. Surely doctors should be left to care for them. Away with both these pleas. What mother, whose son has been taken, had rather know that she would have medical care than to feel that her boy whom she has borne will be cared for in his great need? What young doctor would prefer to stay at home and profit by the scarcity of doctors than to go along with the millions of youth and young men and share their dangers and hardships?

I was made proud by a statement made recently by Mr. Paul V. McNutt, who has been assigned the duty of procuring sufficient medical force to care for the army. He stated that while there are yet needed more than twenty thousand doctors, that eight of the more populous states mostly in the east and near east should furnish sixteen thousand of these, and that sixteen states, mostly in the South, have about furnished their quota. Mississippi is listed in these sixteen states. I am glad that I am a Mississippian. And I am glad that I was born and live in Monroe County. In Monroe County there is a dearth of doctors, only about twelve. Half of these are aging men. All six of these under forty-five have enlisted; all have been accepted save one whose physical condition will not pass him. Besides these five the very first one to volunteer is past draft age. He is today somewhere in mid-Pacific, assigned to duty on a transport. But he asked for it and he can take it. (I refer to Dr. M. Q. Ewing).

We were forced into this war. I believe that our cause is just. We must win this war if it is in accord with the great Ruler's purpose. But to win it we must *all* fight. It is *our* war, it is every body's war; it is "all out war."

News and Comments

Announcement of a five-year, $300,000 grant to The Johns Hopkins University, Baltimore, for an intensive and long time study of the disease of infantile paralysis was made July 10 by Basil O'Connor, president of the National Foundation for Infantile Paralysis.

Promoted from the rank of major last week at Fort Benning, Ga., was Lieut. Col. A M. McCarthy, a former surgeon of near Meridian, Miss. Previously president of the Mississippi Hospital Association, he is at present in charge of surgical service at the Fort Benning hospital.

Lieut. David M. Pennebaker, former New Albany, Miss., physician before entering military service, was recently assigned to duty with the Army Medical Corps at Keesler Field, Miss. Lieutenant Pennebaker is a graduate of Tennessee College of Medicine, and attended both Mississippi State College and the University of Mississippi.

"Columbia University announces that beginning September, 1942, a program of professional studies for the training of Physical Therapy technicians will be offered. This training and instruction will extend over a two-year period and has been organized in compliance with the requirements set down for such programs by the Council on Medical Education and Hospitals of the American Medical Association. The course is being set up in University Extension in close relationship with the College of Physicians and Surgeons of Columbia University, the Nursing Education and Health and Physical Education Departments of Teachers College. The clinical and laboratory instruction will be given at the Vanderbilt Clinic, Neurological Institute, Presbyterian Hospital and New York Orthopedic Dispensary and Hospital.

Deaths

Dr. James Thomas Dean died on February 3, 1942, at his home in Moorhead, Miss. Born in Carroll County in 1859, the son of Thomas H. and Caroline Rogers Dean, Dr. Dean received his medical degree from Louisville Medical College, Louisville, Ky., in 1891 and was licensed to practice in Mississippi on April 14 of that same year. Dr. Dean, who was single, was interested in farming. Interment was in Carrollton, Miss.

Dr. Richmond McKinney, 70, president of the Memphis Country Club the last fourteen years, eye, ear, nose and throat specialist, died at the Baptist Hospital in Memphis on June 30.

Educated at the old Memphis Medical College and in Europe, Dr. McKinney practiced in Memphis 45 years, and was a former head of the nose, ear and throat department of the University of Tennessee. He taught there until 1938, and is the author of a text still in use in the university.

A charter member of the American Bronchoscopic Society, he was a former president of it; was a fellow of the American Laryngological Association and the American Laryngological, Rhinological and Otological Society, besides being a member of the Tennessee Medical Association.

Dr. McKinney was a lifelong Memphian. His parents, James W. and Maria Berry McKinney, came here from Berry's Ferry, Ky., in 1853, and opened a furniture store on N. Main at Jefferson. Dr. McKinney was born June 6, 1872. He was a member of the Shrine and Second Presbyterian Church.

Two nephews, Dr. C. K. Lewis, Jr., and Dr. Wesley McKinney, are both practicing physicians of Memphis.

Book Reviews

The Management of Fractures, Dislocations and Sprains, by John Albert Key, B.S., M.D., Clinical Professor of Orthopedic Surgery, Washington University School of Medicine and H. Earle Conwell, M.D., F.A.C.S., Birmingham, Alabama. Published by the C. V. Mosby Company, St. Louis, 3rd edition, 1942. 1278 pages with 1259 illustrations. Price $12.50.

To present the recent advances in treatment of fractures, dislocations and sprains this newly revised edition of Key and Conwell has been prepared. Incorporated in this new edition are a section on war injuries, revised chapters on face fractures, skull fractures and brain trauma and a discussion of the application of sulfonamides to the treatment of compound fractures. Other sections have been brought up to date.

The book is divided into two parts. Part One deals with genereal considerations, first aid in fractures, complications, compound fractures, war wounds, dislocations, and contains a chapter on workmen's compensation and one on medico-legal injuries. After a short review of the surgical anatomy of the region of injury and the diagnosis, the indicated method, or methods, of treatment is given. The types of traction or fixation are described and illustrated. Strains and dislocations are given adequate consideration. To the student this book is recommended for its fundamental principles, to the specialist for its scope and detail. To the practicing physician it is invaluable as a practical guide in the treatment of fractures, dislocations, and sprains.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

SUDDEN DEATH IN INFANTS WITH SCURVY—Richard H. Follis, Jr., M.D., Baltimore, Maryland—The Journal of Pediatrics, 347:351 (March) 1942.

I am sure that severe scurvy is not seen as frequently in this county as in some other countries but that many children suffer with a vitamin C deficiency in this country in varying degrees, there is no doubt.

The author presented the clinical histories of three infants dying unexpectedly; all of them at autopsy were found to have severe scurvy. Two of them had right-sided cardiac hypertrophy. The usual causes of sudden death in infancy, such as congenital cardiac malformation, cerebral hemorrhage, and sepsis, were absent in these children. So, too, any severe antecedent illness which might have led to diarrhea and acidosis was also lacking. Unfortunately, we do not know how much anemia was present, since blood studies were not made. We are left, then, with the question as to what role vitamin C deficiency may play in producing cardiac failure.

In adult scurvy sudden death has been recognized from early times. Lind cites a passage from Lord Anson's "A Voyage Around the World" (1740-44) as follows: "Indeed the effects of this disease were, in almost every instance, wonderful. For many of our people, though confined to their hammocks, appeared to have no unconsiderable share of health; for they ate and drank heartily, were cheerful, and talked with much seeming vigour, and with a loud strong tone of voice; and yet on being the least moved, though it was only from one part of the ship to the other, and that in their hammocks, they have immediately expired. And others, who have confided in their seeming strength, and have resolved to get out of their hammocks, have died before they could well reach the deck. And it was no uncommon thing for these who could do some kind of duty, and walk the deck, to drop down dead in an instant on any endeavours to act with their utmost vigour." Again Lind says, "An uncommon degree of sloth and laziness which constantly accompanies this evil (scurvy) is often mistaken for the willful effect of the patient's natural disposition. This has proved fatal to many, some of whom, when obliged by their officers to climb up the shrouds, have been sent to expire, and fall down from the top of the mast."

The author states that in 1914 Darling called attention to the presence of right-sided cardiac hypertrophy in several fatal cases of adult scurvy. He pointed out the resemblance of these hearts to those found in beriberi. A few years later Hess contributed a paper on "The Cardio-Respiratory Syndrome" in infantile scurvy. This consisted of increase in the rate of pulse and respiration together with increase in size of the base of the heart. Another important report on the relationship of scurvy and the heart in children was made by Erdheim in 1918. He performed autopsies on thirty-one scrobutic children dying in Vienna, twenty-one of whom had hypertrophy of the right ventricle.

The author says that we may conclude then that in the literature there is indication that vitamin C deficiency does play a role in producing changes in cardiac function.

The author is unable to put forward any satisfactory explanation as to why vitamin C deficiency may lead to cardiac insufficiency. He says, however, that it is hoped that careful clinical studies in cases of severe scurvy before and after treatment may throw some light on the problem.

SUMMARY

From the author's cases we may summarize that in three cases of severe scurvy in infancy death took place suddenly and unexpectedly. Two of the children had right-sided cardiac hypertrophy. Except for this, no other changes were found to account for death. The probable importance of vitamin C deficiency in producing myocardial hypertrophy and also in leading to cardiac insufficiency is discussed. It is pointed out that vitamin C deficiency may not be the only responsible factor.

COMMENT

There is no doubt but that many of us have been over anxious about vitamin deficiencies of all kinds, and yet most of us, especially those of us who are doing pediatrics alone have seen so many cases of deficiencies and there has been such woeful neglect in them, that we are inclined to believe that we should go back and stress the administration of the vitamins to infants and young children with greater emphasis. This applies more particularly to vitamins C and D.

State Board of Health

Felix J. Underwood, M.D.

The regular semi-annual meeting of the Mississippi State Board of Health was held in the Medical Library on June 26, at which time public health activities for the period January to June 1, 1942 were reviewed. Some of the accomplishments for the five-month period, as revealed in the reports of the division directors, are as follows:

MATERNAL AND CHILD HEALTH

The program for the care of the premature infant made gratifying progress. Dr. Maude M. Gerdes, director of the Division of Maternal and Child Health, reported that eighty-one electrically equipped incubators with cribs, airfoam mattress and oxygen hoods have been placed in all full-time county health departments and at strategic points throughout the state. In addition, some of the health departments are constructing incubators to serve homes not equipped with electricity. Each nursing district will be supplied with a heated infant crib. These cribs will be baskets so fitted that they will provide heat for the premature infant by simple methods at hand. Premature garments, special thermometers, and vitamin products have been made available to provide better care for premature babies. A travel scholarship was granted to one of the advisory nurses of the Field Unit staff in order to keep the nursing staff fully informed of latest technics. The scholarship provided for study and observation of the Minnesota program for the premature infant, general maternal and child health activities of the Minnesota State Department of Health, obstetrical and pediatric services at Minneapolis General Hospital and other hospitals in Minneapolis and St. Paul, and it also provided for study and observation of the Kenney method of treating poliomyelitis.

Obstetrical packs have been placed in 32 counties and tentative plans have been made for about 14 additional counties. It is hoped that all health departments will have this equipment available by the end of the year. There are now over five hundred packs in use. Twenty-four large and three small pressure cookers have recently been placed in the counties to provide means for autoclaving the contents of the obstetrical kits.

There have also been placed in county health departments kits to provide more complete nursing services at antepartum and infant and preschool conferences; baumometers, pelvimeters, examination table pads and stirrups for locally constructed examination tables, speculae, dressing forceps, small sterilizers, hemoglobinometers, and other equipment and supplies to augment the quality of local maternal and child health service.

A pediatric consultant, Dr. Eva Linn Meloan. has been employed to assume active state-wide supervision of child health activities. Dr. Meloan was given a three months' period of orientation and training in the Lauderdale County Health Department, following which she served as health officer in Chickasaw County. A nutrition consultant, Miss Mary Stansel, has also been added to serve the public health program. Miss Stansel completed a course of study in this field at Western Reserve University and is ably qualified to direct the nutrition work so essential to the welfare of the people of the state.

Special nutrition schools were conducted during the period, in which the Division of Maternal and Child Health coöperated. One series was given over to the medical aspects of nutrition. Nutritional needs of the mother and the infant were given due recognition. Assistance was also given Dr. E. White Patton, Vanderbilt University School of Medicine, in connection with a nutrition study sponsored by the Delta Council. Two hundred individuals were given thorough physical examinations, including blood studies; and dietary habits and home environment were conducted. The results of the study will be reported by Dr. John B. Youmans and his staff when all data are complete.

Immunizations were stressed in the May Day-Child Health Day program this year; although it is gratifying to point out that immunizations are included in the general health program as a regular service the year round.

COUNTY HEALTH WORK

The Division of County Health Work has just completed the first six months of activity during war time. Dr. J. A. Milne, director, reported that the unusual conditions provoked by such activity had made necessary a number of adjustments in the public health program. Expansion of venereal disease control activities and sanitation projects are notable examples. With military camps or defense projects now established in fifteen counties of the state, it became increasingly important to have rigid enforcement of State Board of Health regulations and the establishment of additional clinics in the various hygiene services to prevent epidemic outbreaks of disease.

Additional trained public health personnel is urgently needed to carry on uninterruptedly the present program. Since January 1, five new county health departments have been established: Clay County was organized on January 1; Calhoun County, March 1; Leake County, April 1; Grenada County, June 1; and Wilkinson County, June 16. This represents a total of 65 counties with full-time health service, or 56 independent health departments. Five additional counties have made appropriations for full-time service. These will be organized when experienced personnel is available.

During the past six months the State Board of Health has lost from its employ seven health officers who resigned to enter military service. During the same period of time eleven sanitation supervisors terminated their services with the state health organization: eight to enter military service; three to accept positions with defense projects at higher salaries. Eighteen public health nurses have resigned; four of these entered nursing service with the armed forces. In order to fill the vacancies created by these resignations, the State Board of Health has been able to employ and have trained through the Lauderdale County Training Center nine health officers, ten sanitation supervisors, and eleven public health nurses. It has been repeatedly pointed out that the health of the civilian population influences directly or indirectly the health of the armed forces. It becomes increasingly important, therefore, that the highest degree of efficiency be maintained in the public health program in spite of the numerous handicaps imposed through loss of personnel and the additional duties which must be met to serve the best interests of the war effort.

PREVENTABLE DISEASE CONTROL

No significant outbreak of acute communicable diseases occurred in the state during this period, according to Dr. A. L. Gray, director of the Division of Preventable Disease Control. Diphtheria, smallpox, typhoid fever, influenza, measles, and whooping cough remained at a relatively low level—as low, or lower, than for the same periods in recent years. Scarlet fever during the first four months of the year was more prevalent than in the previous year. There were reported 199 cases as compared to 109 cases during the same period in 1941.

Assistance was given in setting up an immunization program in Franklin County, which was carried on for about two months by a clinician and a nurse. Through this program, immunization against smallpox, diphtheria, and typhoid fever was brought within reach of everyone in the county. This work has already been completed in Wilkinson County and is new being carried on in Attala County.

Shortly after the Selective Service Program was initiated, the State Board of Health, State Selective Service System, county health departments, and local Selective Service boards began planning together methods of treating the thousands rejected because of venereal diseases. In the counties with clinic programs already in operation facilities were available for treating these patients, and approximately four thousand were placed under treatment in these counties up to December, 1941. There was experienced much difficulty in locating these patients, however, and in preventing lapse of treatment. Revised regulations passed by the December State Board of Health meeting have proved most helpful in venereal disease control and in preventing lapse of treatment and in securing examination of suspected areas.

Early this year, 22 treatment clinics were set up in 19 part-time counties for treating registrants rejected because of venereal diseases. This was done after a survey of cases revealed that not more than 5 per cent had been under treatment by private physicians.

Dr. W. H. Weeks, a private physician of Doddsville, with much clinic experience and postgraduate study in venereal disease control, was selected to organize and supervise the program in these counties. Four district clinic nurses and four clerks are working under his supervision. Board of supervisors or city governments are supplying clinic space and utilities. Private physicians are operating the clinics on an hourly basis. Local selective boards are coöperating splendidly in locating cases and referring them to the clinics. During the past few months the system of, and facilities for, treating selectees improved so markedly that in most counties more than 80 per cent of those rejected because of venereal diseases are under treatment, and in many counties more than 90 per cent are under treatment. One move which has aided this program materially was the appointment by the Selective Service System of all health officers as additional examiners in charge of the laboratory section of local boards.

The Division of Preventable Disease Control selected 14 male venereal disease investigators to do follow-up work in thirteen of the county health departments where the venereal disease control problem is greatest and particularly in counties having large military establishments. These men were given three weeks' special training in fundamentals of the venereal disease problem by personnel of the Division and were assigned to their counties early in April. Although this is a new approach in the follow-up of lapsed cases, contacts, and suspects, the preliminary reports indicate that these men are most valuable additions to the personnel of those departments.

During the period two Public Health Service physicians have been assigned to the Division to assist in conducting the state's venereal disease control program. These physicians are P. A. Surgeon Paul T. Erickson, formerly with the division control officer of the city of St. Louis. These physicians are supplying badly needed assistance in the venereal disease control program, particularly in military zones where the problem is most acute. Dr. E. E. Merse was recently employed as venereal disease clinician and is now assisting in the full-time counties in placing selectees under treatment.

Plans are now being made by the Division of Preventable Disease Control to initiate a whooping cough immunization program in the state. This is in view of the large number of deaths due to this disease in the age group three years and under, and further in view of recent research which discloses that this measure either prevents the disease or reduces its severity. It is proposed that the vaccine be made available to private physicians for all children three years of age and under, and that the physician prepare a record card for each child immunized and turn it over to the health department so that some conclusion can be drawn as to the extent of the vaccine's effectiveness. Education, distribution of vaccine, and record keeping will comprise the chief activities of the health department in this undertaking, leaving as much of the actual immunization work to private physicians as they will assume.

Other interesting reports, reflecting increased activity due to the war effort, were presented by the Division of Vital Statistics, the State Hygienic Laboratory, the Division of Sanitary Engineering, the Medical Library, the Mississippi State Sanatorium, the Division of Health Education, and the several departments acting within these divisions, such as Malaria Control in the Division of Preventable Disease Control.

CHANGES IN THE LIST OF MISSISSIPPI PHYSICIANS

May 30, 1942

Add the Following:

Dr. R. C. Vanderhoof to Aberdeen, Monroe County.

Dr. C. E. Niehuss to Pascagoula, Jackson County.

Dr. B. R. Burgoyne to South Mississippi Charity Hospital, Laurel, Jones County.

Remove the Following:

Dr. R. L. Holley, Pr., from LafayetteCounty—gone to Camp Shelby, Mississippi.

Dr. M. M. Snelling from Harrison County—gone to Keesler Field, Mississippi.

Dr. H. L. Howard from Montgomery County—gone to Navy.

Dr. W. E. Lotterhos from Hinds County—gone to Camp Grukr, Oklahoma.

Dr. Ben R. Heninger from Harrison County—gone to Army, La Garde Hospital, La.

Dr. E. W. Ryan from Harrison County—gone to Camp Lee, Va.

Dr. A. W. Klaus from Washington County—gone to Naval Air Station, Miami, Florida.

Changes:

Change Dr. H. F. Mars from Noxubee County to East Mississippi State Hospital, Meridian, Lauderdale County.

Address of Dr. J. F. Van Pelt, Gulfport, Harrison County, is Hatten Building.

Change Dr. T. J. Smith from Pythian Building to Rosebaum Building, Meridian, Lauderdale County.

Change Dr. M. H. Roberts from Holmes County to 1007 Mississippi Avenue, Greenwood, Leflore County.

CHANGES IN THE LIST OF MISSISSIPPI PHYSICIANS

June 23, 1942

Change:

Change spelling of Dr. D. C. Funderburk's name from Funderburke to Funderburk—DeSoto County.

Change Dr. Eva L. Meloan from Chickasaw County to State Board of Health, Jackson, Hinds County.

Change Dr. J. B. Looper from Lafayette County to Acting Director, Chickasaw County Health Department, Houston.

Change Dr. F. L. McGahey from Lauderdale County to Director, Grenada County Health Department, Grenada. Dr. R. A. Clanton is still in Grenada but is no longer health officer.

Change Dr. C. M. Roberts from Lauderdale County to Director of Clay County Health Department, West Point.

Dr. D. B. Wilson, U.S.P.H.S., Gulfport, is now acting Director of Harrison County Health Department.

Add:

Dr. O. B. Rogers, Como, Panola County.

Dr. H. A. Stephens, Natchez, Adams County—Colored.

Dr. Ruth R. Burroughs to Meridian, Lauderdale County.

Dr. Levi R. Patton, Colored, to Alcorn, Claiborne County.

Remove:

Dr. D. D. Baugh from Lowndes County—gone to Army.

Dr. M. O. Hines from Walthall County—gone to Army Air Corps, Oklahoma City, Oklahoma.

Dr. D. J. Van Landingham from Clay County—gone to Army.

Dr. R. J. Criss, Jr., from Yalobusha County—gone to Navy.

Dr. D. A. Buckingham (Colored) from Lauderdale County—gone to Army.

Dr. E. D. Reynolds from Hinds County—gone to Army.

Dr. H. G. Fridge from Jones County—gone to Army.

Dr. H. H. McClanahan, Jr., from Lowndes County—gone to Army, Pensacola, Florida.

Dr. W. D. Hickerson from Simpson County—gone to Hamilton County Tuberculosis Hospital, Cincinnati, Ohio.

Dr. T. D. Sumerford from Itawamba County—gone to Forrest City, Arkansas.

Dr. J. Q. Fountain from Panola County—moved to Memphis, Tennessee.

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COMMITTEE HEADS APPOINTED

Mrs. V. B. Philpot, president of the Auxiliary to the Mississippi State Medical Association, has announced the following appointive officers to serve the 1942-1943 term:

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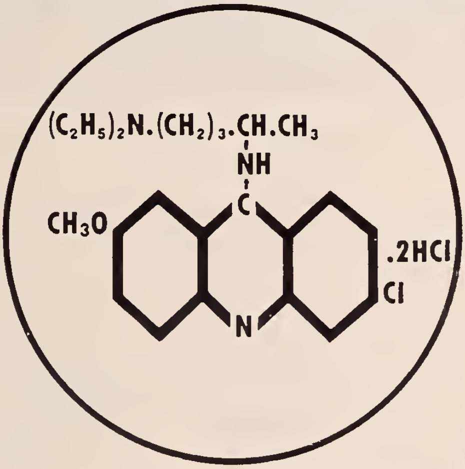

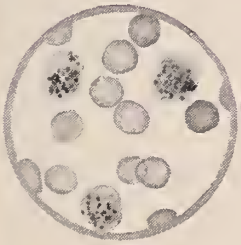

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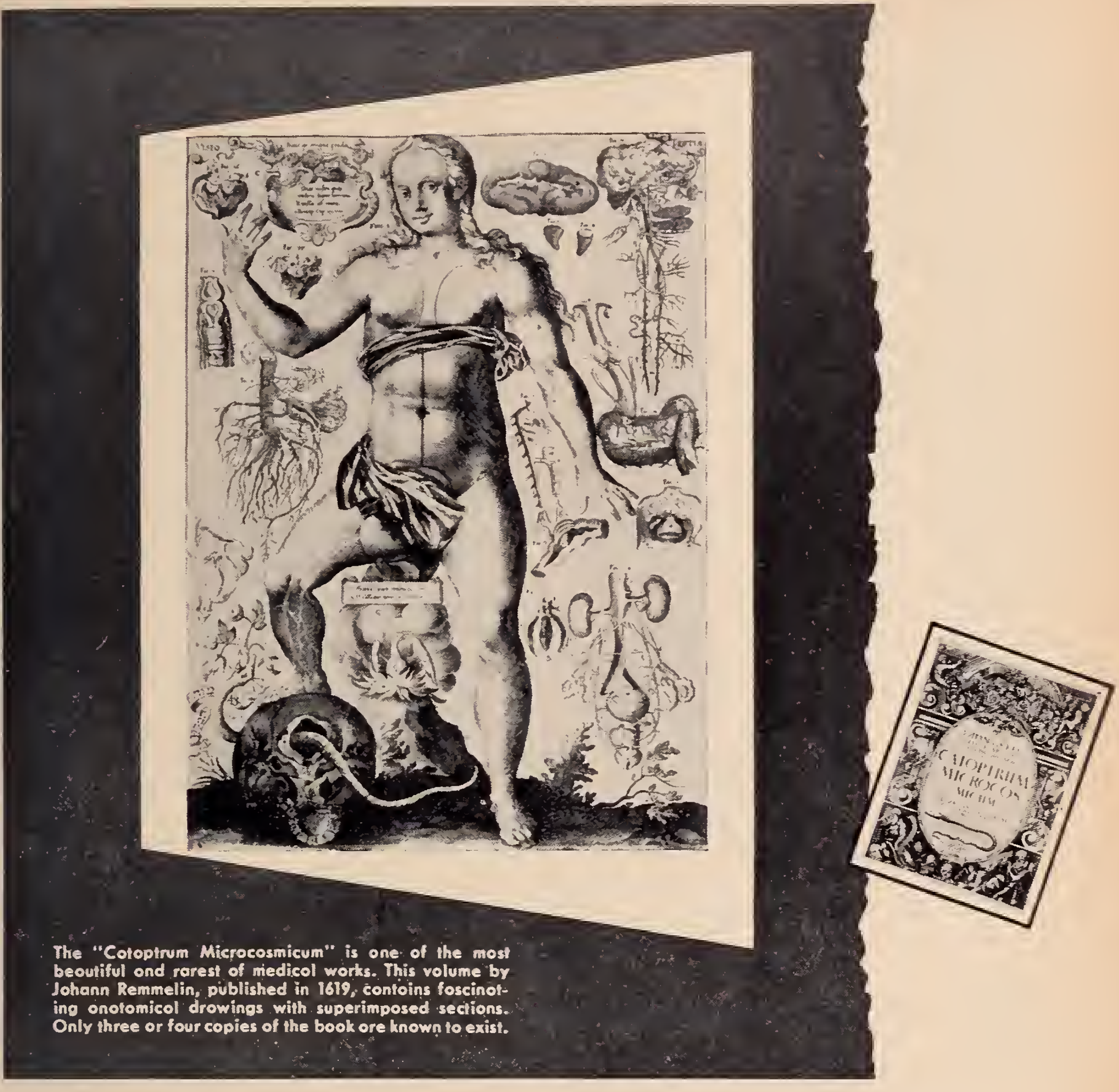

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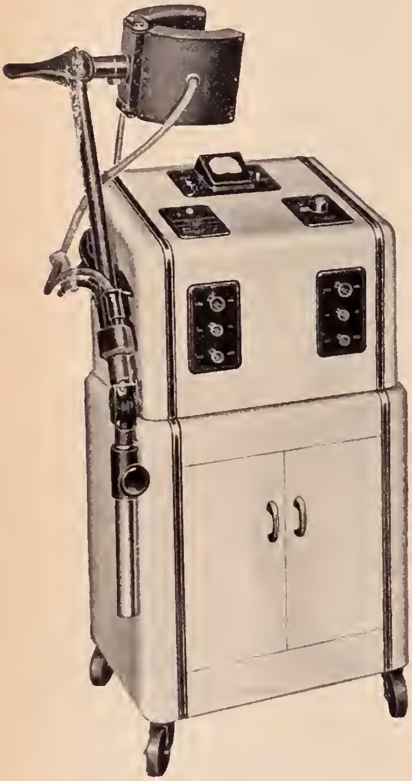

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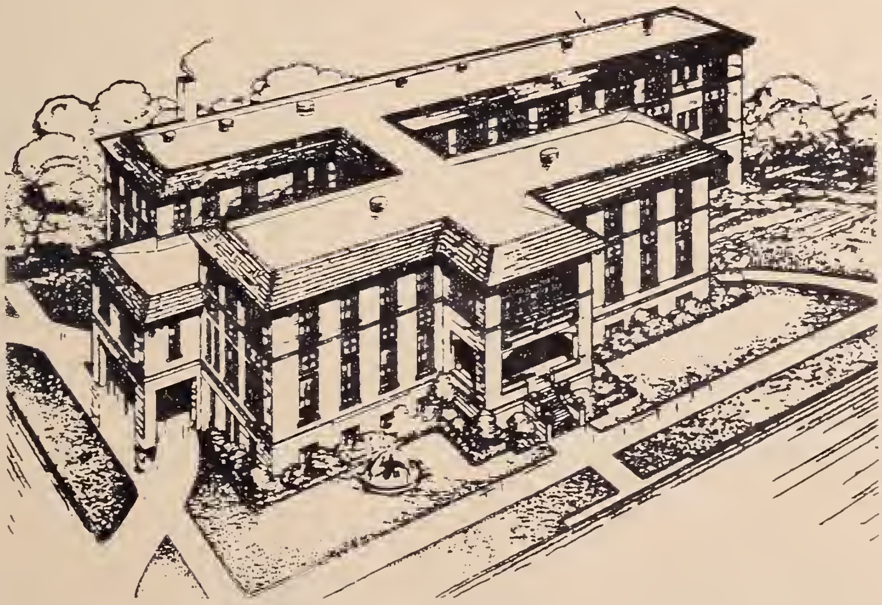

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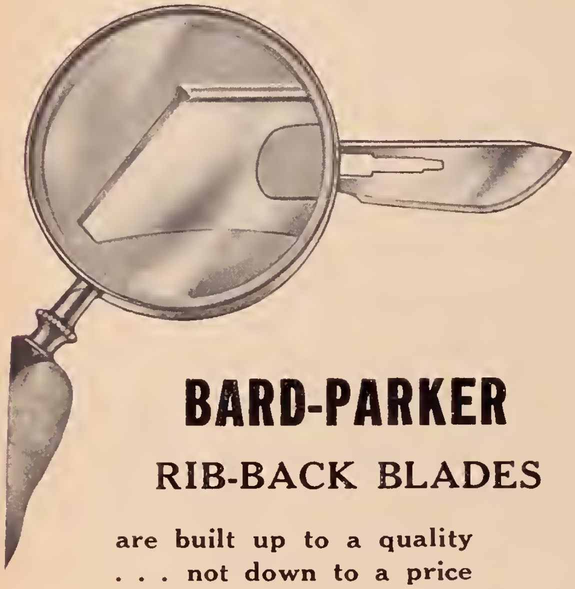

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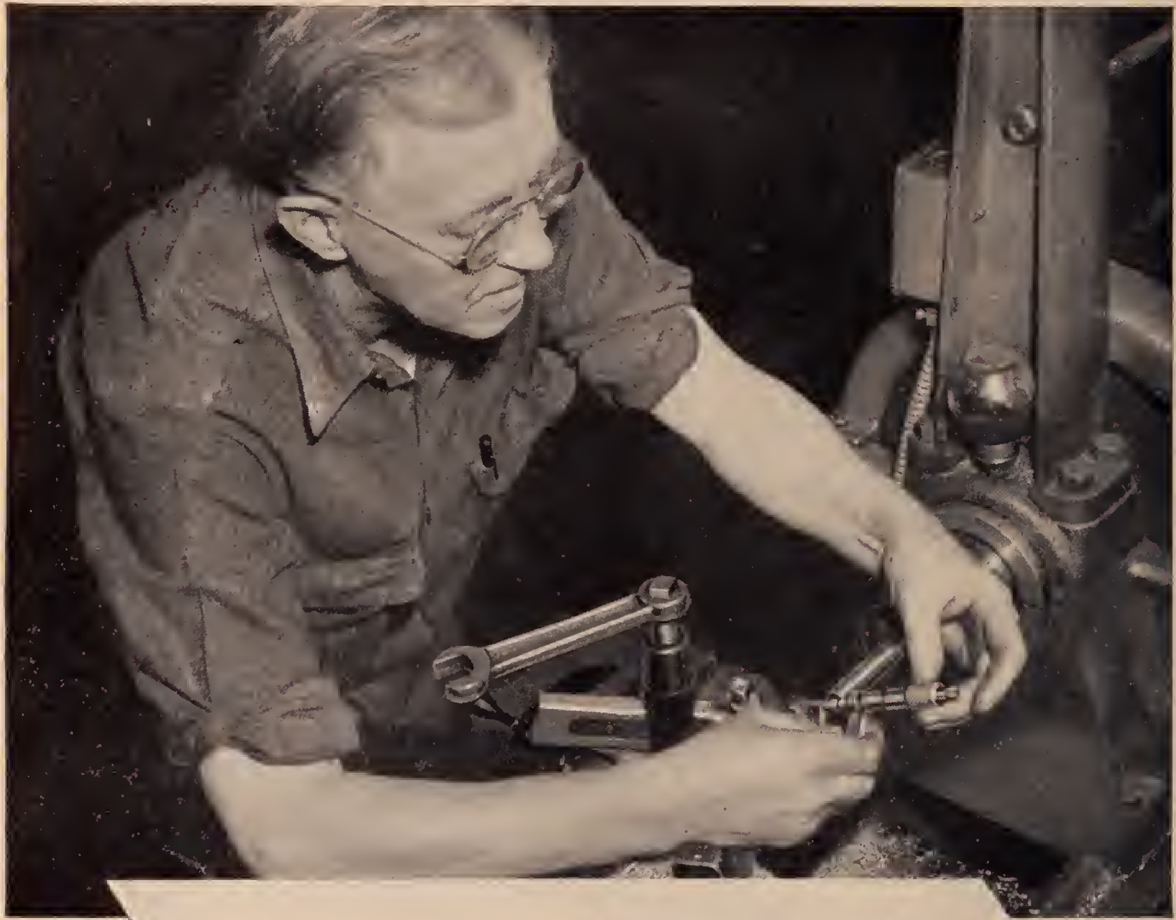

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The Diagnosis of Chest Conditions In Childhood*

STANLEY GIBSON, M.D.
CHICAGO, ILLINOIS

IN THE SMALL chest of the infant or young child, it is often difficult to elicit the physical signs which indicate the presence of pathology. Even when one is able to detect abnormal signs, their interpretation is often doubtful. On this account it is important, when possible, to make use of other aids to confirm or modify tentative conclusions deduced from the history and the physical examination. Of these aids the most important and most readily available is the roentgen ray. Yet in some instances the x-ray leaves us in doubt, and we must call in the bronchoscopist or the thoracic surgeon to lend his aid in establishing the diagnosis, and in carrying out therapeutic measures. Thus in many of the more difficult and obscure chest conditions in children, it is highly desirable that the pediatrician, roentgenologist, bronchoscopist and thoracic surgeon work in close conjunction to render the best type of diagnosis and therapeutic service.

In infancy one of the most frequent problems confronting the physician is that of the enlarged thymus gland. The notion that sudden death in infancy is sometimes due to the thymus gland has become altogether too well advertised to the laity. Even though the baby is completely free from symptoms, the mother often requests that an x-ray of the thymus gland be taken just to make sure that it is all right, and if the thymus shadow is found to be somewhat widened, x-ray therapy is often instituted. It is certainly open to question whether such a procedure is justified. In the first place the conception of so-called "status thymicolymphaticus" which was thought to explain certain sudden deaths in infancy has not been proved to be a morphological entity. There is no convincing evidence that an enlarged thymus is the causative factor in these sudden deaths, nor is there evidence that roentgen treatment is of value. The more carefully autopsies have been performed, the more frequently other pathology has been found to explain what may have appeared to be a death due to "status thymicolymphaticus."

The second important question is whether an enlarged thymus gland produces symptoms through pressure upon the airway. Noisy breathing, inspiratory stridor, retraction of the suprasternal and infrasternal spaces, and cough are not infrequently encountered in infancy. Do these symptoms indicate the presence of an enlarged thymus gland? This should not be assumed to be the case even if the thymic shadow appears somewhat large until other possible causes of the above symptoms have been considered. One of the commonest causes of symptoms such as I have just enumerated is immaturity or hypotonia of the larynx. A three-month-old baby came to our clinic recently with a history of noisy respirations and inspiratory stridor since he was three days old. During the four days previous to entry into the hospital the respirations had been difficult as well as noisy. X-ray examination revealed widening of the supracardiac shadow, especially on the right. Two x-ray treatments over the thymic area were given. Nevertheless the symptoms persisted. A laryngoscopic examination was then performed by Dr. Holinger. It revealed a small, loose, flapping epiglottis which fluttered into the larynx during inspiration. The larynx itself was flabby in appearance. In other words the condition of the larynx rather than the enlarged thymus appeared to account for the symptoms in this instance. Many other conditions, such as foreign bodies, enlarged adenoids, atelectasis, congenital cardiac anomalies, and brain hemorrhage must be considered in the differential diagnosis.

Mediastinal tumors are frequently encountered in children, common among these being lymphosarcoma or other malignant tumors, and the masses of Hodgkin's disease. The physical findings may be varied and are often puzzling. Depending upon their size and locations these may cause dyspnoea, dullness to percussion, bronchial breathing, shifting of the position of the mediastinum, and sometimes edema and venous congestion of the head, trunk, or upper extremities. In such instances the character of the x-ray shadow, examination of the blood, sternal puncture, or biopsy of an enlarged lymph gland may aid in the diagnosis. The usual absence of appreciable fever and the insidious onset help to distinguish thoracic tumors from acute pulmonary conditions.

---

*Read before the fifty-seventh annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 10-13, 1942.

The most frequent and important thoracic conditions are those which involve the air passages themselves. The pathology may involve the larynx, the trachea, the bronchial tubes, or the lungs, or any or all combinations of these structures.

Even the more common conditions such as lobar pneumonia or empyema are not always easy to diagnose. Especially in the early stages of lobar pneumonia, the only changes on physical examination may be impaired resonance and distant breath sounds over the affected area. The loud breathing on the normal side may easily be mistaken for bronchial breathing, and as a result the pneumonic process is not correctly localized. It is embarrassing to have the roentgenologist find the pathology on the side opposite to that which seemed to be involved on physical examination.

Empyema may also offer difficulties in diagnosis in the infant or young child. The classical findings of flatness throughout one entire side of the chest together with distant breath sounds are not necessarily present. Loud bronchial breathing may sometimes be heard even in the presence of large amounts of fluid. The most important physical sign is the shift of the mediastinum. Hence the cardiac dullness and the position of the apex beat should be carefully sought. In doubtful cases the x-ray or even the exploring needle may be necessary to establish the diagnosis.

I wish now to consider especially the obstructive lesions of the air passages, for their prompt recognition and proper management are essential to the patient's welfare.

There are numerous ways in which the air passages may be obstructed. A frequent way with which all are familiar is by the inhalation of various types of foreign bodies. Thick mucus, or inflammatory swelling of the mucosa, or neoplasm may cause obstruction. Still another means of obstruction is pressure from without the bronchi, for example by enlarged lymph glands or other tumor masses.

Chevalier Jackson has pointed out the various types of bronchial obstructions, together with the symptoms and physical signs which may result. Thus a bronchus may be incompletely obstructed, allowing air to pass in and out. This partial obstruction produces a wheeze heard at the open mouth. This wheeze is often mistaken for asthma. In other instances, the obstruction may prevent completely the passage of air into the bronchus. When this occurs, the portion of lung supplied by this bronchus gradually collapses due to absorption of the retained air. In still another type of obstruction air may be able to enter the bronchus, but because of decrease in size of the bronchial lumen during expiration, air may be trapped in the lung. Obstructive emphysema results.

These obstructions produce a train of physical signs which depend upon the location and nature of the obstruction. Thus if a primary bronchus is completely obstructed, collapse of the entire lung occurs. The physical signs reveal dullness over the affected side, absent or perhaps distant bronchial breathing, with shift of the heart to the affected side. When obstruction in a main bronchus permits the entrance of air but does not allow it to escape, emphysema results. Here again the breath sounds are distant or absent, but percussion yields a hyperresonant note, and the heart is shifted away from the affected side. When small areas are involved, either by atelectasis or emphysema, the signs may be indistinct and difficult to interpret.

Everyone is familiar with the fact that foreign bodies produce bronchial obstruction, often with dramatic symptoms, such as violent choking and coughing, and with well marked physical signs of pulmonary atelectasis or emphysema. It is not thoroughly appreciated that inflammatory swelling of the mucous membrane and thick, viscid bronchial secretions may also result in bronchial obstruction. In fact the obstructions occurring in the course of acute respiratory infections are far more frequent and important than those due to foreign bodies.

The point which I wish now to emphasize is the fact that bronchial obstruction if unrelieved may result in serious, irreversible changes beyond the point of obstruction which may result in chronic ill health or even death. Hence it is essential that every effort be made to establish the diagnosis without delay, and to institute proper treatment.

A few illustrative cases will emphasize this point. An eight-month-old baby was admitted to the hospital with a history of cough of several weeks' duration. On the day before admission the breathing became rapid and difficult. Inspection on admission showed cyanosis and marked dyspnoea, with retraction of the suprasternal and infrasternal spaces. Respirations were counted at 86 per minute. The temperature was 99.2°. Physical examination revealed dullness over the entire left chest with distant bronchial breathing. The right chest was hyperresonant. The x-ray film showed marked displacement of the mediastinal structures to the left, with complete blotting out of the left lung field. Bronchoscopic examination was done without delay. The left main bronchus was found occluded by thick mucopus. Following aspiration, the child's cyanosis, dyspnoea, and rapid respirations were immediately relieved. X-ray a few days later showed the lung fields equally clear, and the heart in normal position.

Another patient, a boy one year of age, was admitted to the hospital with the history of an upper respiratory infection which had been present for a month. At the onset he had had symptoms which were thought to be due to pneumonia. The acute symptoms then subsided, and he had seemed improved until three days prior to admission when his cough became worse and he began to wheeze. On the day before admission he had marked dyspnoea with slight fever. Physical examination revealed hyperresonance of the right chest and diminished breath sounds. On the left side posteriorly there was relative dullness and the breath sounds were harsh. The roentgen film showed emphysema of the right lung, the mediastinal structures displaced to the left, and partial compression of the left lung. There was clouding extending outward from the hilum of the right lung. Although no foreign body could be visualized, it was the opinion of Dr. Anspach, the roentgenologist, that a foreign body which incompletely obstructed the right main bronchus was responsible for the emphysema of the right lung and for the inflammatory reaction about the hilum. Dr. Holinger removed an orange stem from the right main bronchus. The baby's symptoms were immediately relieved. A second x-ray film taken within five minutes of the completion of the bronchoscopy showed a perfectly normal appearing chest.

In these two cases are found a number of interesting features. One had bronchial obstruction due to mucoid secretion. The other had bronchial obstruction due to a foreign body. In one the obstruction was complete with collapse of the lung and shifting of the mediastinum to the affected side. In the other the obstruction was incomplete with emphysema of the affected side, and shifting of the mediastinum toward the unaffected side. In both there were physical findings which might easily have been interpreted as pneumonia. Both made uneventful recoveries following relief of the bronchial obstruction. What their ultimate course might have been if the obstruction had not been relieved may be illustrated by the following case.

A seven-year-old boy was admitted to the hospital for tonsillectomy on September 4, 1936.He was discharged from the hospital on the following day. On October 12, 1936, he returned to the hospital with the story that he had begun to cough ten days after his tonsillectomy, and that he had had fever and cough since that time. Physical examination revealed dullness and bronchial breathing in the upper left chest. The x-ray confirmed the physical findings, showing that there was involvement of the left upper lobe and that the mediastinum was shifted to the left. Bronchoscopic examination by Dr. Holinger revealed stenosis of the left upper lobe bronchus. Several bronchoscopic treatments were carried out with some improvement, but findings were still present both by physical examination and x-ray. On December 21, 1936, he was permitted to go home for the Christmas holidays, with the understanding that he should return after the New Year for further treatment. This he failed to do. He was not seen again until November 22, 1940, at which time he was again admitted to the hospital. The interval history was illuminating. After the holiday season of 1936-1937, he had remained in bed at home for four months, then went to school for about a month. The following year he seemed all right, but gained little weight. In the winter of 1938-39, he seemed perfectly well. He gained weight and did not cough. In June, 1940, he had a recurrence of cough and fever, with slow improvement. In October, 1940, he had another relapse, and this attack brought him to the hospital on November 22, 1940. At this time he still had findings in the left upper lobe. In spite of numerous bronchoscopic aspirations, his symptoms and physical signs persisted. It was finally decided that his only chance for recovery was complete removal of the left upper lobe. This was done by Dr. Van Hazel, with an uneventful recovery and no recurrence of symptoms. This case is interesting because it shows the possible course of unrelieved bronchial obstruction. In all probability a mucous plug obstructed his left upper bronchus shortly after tonsillectomy. Had he returned to the hospital promptly on the occurrence of his fever and cough, he could probably have been relieved by a single bronchoscopic aspiration. It is also interesting to note that he was apparently in good health for practically three years even though the pathology in the left upper chest had persisted throughout this entire period. Finally it should be emphasized that this boy was fortunate in that his pathology was sufficiently localized so that its removal was possible, even though he had to undergo a very heroic operation. When long continued obstruction resulting in bronchiectasis involves wide areas of both lungs, operative relief is impossible.

It is well, therefore, to scrutinize carefully chest conditions which do not quite fit the typical picture of pneumonia or empyema. If symptoms and physical signs persist for a considerable period of time, they should be viewed with still greater suspicion, and no means of diagnosis omitted which will determine the presence or absence of bronchial obstruction. If bronchial obstruction is found to be present, prompt treatment is vital to the patient's welfare.

Dr. Henry van Dyke hymned the cause of righteous wrath:

"There are many kinds of hate,
  as many kinds of fire;
And some are mean and craven,
  revengeful, selfish, slow,
They hurt the man that holds them
  more than they hurt his foe.
"And yet there is a hatred that
  purifies the heart,
The anger of the better against
  the baser part.
Against the false and wicked,
  against the tyrant's sword,
Against the enemies of love and
  all that hate the Lord.
"O cleansing indignation, O flame
  of righteous wrath,
Give me a soul to see and
  follow in thy path;
  Save me from selfish virtue, arm
  me for fearless fight,
And give me strength to carry on,
  a soldier of the Right."

Retrodisplacement of the Uterus*

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THE TERM retrodisplacement of the uterus is used to include both retroversions and retroflexions, which differ from each other only by a break in the alignment between the cervical canal and endometrial cavity in the case of retroflexions. Both of these displacements may be congenital or acquired; neither causes symptoms per se; and their treatment is the same. The best treatment for acquired displacement is prophylaxis, and this involves precautionary measures and proper therapy during pregnancy and the puerperium, as well as re-examination of the patient three and twelve weeks after parturition. Congenital displacement as a rule can be identified by the foreshortened anterior cervical lip, and anterior vaginal fornix; a general hypoplasia of the internal pelvic organs, and limited mobility of the uterus, despite the absence of adnexal disease. They are frequently associated with endocrine derangements and discovered incidentally. Acquired displacements are usually due to pelvic floor lacerations, subinvolution, relaxation of the supporting ligaments, adnexal inflammation, pressure from tumors. and the exertion of the intra-abdominal pressure on the anterior—instead of the posterior—surface of the corpus. If symptoms such as sacral backache, memorrhagia, leukorrhea, etc., were really due to displacements they would appear immediately after the time when the displacement is acquired. Since most of these annoyances do not appear until after the lapse of considerable time, it is logical to assume that the symptoms are actually due to some complicating condition, rather than to the malposition itself.

The factors responsible for normal uterine poise and position are the dynamics of the intra-abdominal pressure exerted against the posterior surface of the corpus; the toxicity of the supporting ligaments, and the integrity of the perineal musculature. Having recognized a retrodisplacement it is important to determine whether the malposition is congenital or acquired; whether the uterus is replaceable or immobilized, and whether or not there is a co-existing endocervicitis, periuterine fixation or pelvic tumor. A replaceable uterus may be treated by a pessary or operation. Immobilization is usually due to an associated pathological condition. A freely movable retrodisplacement is often erroneously regarded as uncomplicated simply because no grossly apparent complications can be detected, although there may be intense passive congestion in the uterus and broad ligaments. It is the insidious onset of circulatory stasis that is chiefly responsible for the delayed and gradual appearance of symptoms in the majority of cases. Of the many complications credited to retrodisplacements only sacral backache, a sense of pelvic heaviness, and leukorrhea, are apt to be manifestations of the malposition with its associated circulatory stasis.

Exact differential diagnosis is important before subjecting the patient to prolonged treatment, or a futile laparotomy. Retrodisplacements may be treated prophylactically, expectantly, palliatively, or surgically. Proper precautionary measures include avoiding undue traction on the cervix during pelvic operation, packing the uterus with iodoform gauge, and the administration of pituitrin after a curettage for abortion; the prompt repair of perineal laceration after delivery; elevation of the patient's shoulders during the puerperium to promote lochial drainage, and having the patient assume the prone position for five or ten minutes each day during the postpartum confinement to bed. Subsequent deep breathing exercised in the knee-chest position and regular and continued breast feedings both promote involution, not only of the uterus, but of all the other pelvic structures.

Palliative therapy refers chiefly to the application of a properly fitting pessary in cases of replaceable retrodisplacements, and the treatment of co-existing peri-uterine inflammatory conditions. The induction of local depletion and hyperemia by strip gauze and glycerin vaginal packings, hot saline douches, hot Sitz baths, diathermy and short wave therapy, will often convert a fixed displacement into one that is replaceable. When the malposition is discovered early it can be corrected with an excellent prospect of a nonoperative cure. In other cases relief is experienced only while the pessary is in place. The purpose of the pessary is not to correct the displacement, but to maintain proper position after the uterus has been replaced. Certain prerequisites are essential. The bladder should be emptied; the mobile uterus returned to its normal position bimanually, and there must be no pronounced associated prolapse or cystocele. Misused, misfitted, and misapplied pessaries will cause distress and local soreness, whereas one that fits well can be worn with perfect comfort. All pessaries should be removed and cleansed every six weeks. For the majority of patients requiring pessary support, the Albert Smith type will be found the most satisfactory.

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Laparotomy for the correction of the displaced uterus is an elective and not an emergent operation, and should not be advised unless the hazard involved is negligible, all palliative measures have been exhausted, and subsequent pelvic comfort can be anticipated. Operation, which fails to afford symptomatic relief, is a failure regardless of the anatomic result.

The multiplicity of operations devised for the surgical replacement of a retroverted or retroflexed uterus, is really evidence of appreciation on the part of discriminating gynecologists that no single technical procedure is universally applicable. Failures most often result from inadequate pre-operative differential diagnosis, or over enthusiasm in favor of a particular operation. The great advantages of the Baldy-Webster technic are that this operation can be done quickly, it preserves normal uterine mobility, elevates prolapsed ovaries, and in my experience has interfered less with subsequent pregnancy and parturition than any other corrective procedure. It is particularly well adapted to a patient who is wearing a pessary with relief of symptoms, thus demonstrating to both patient and physician that the annoyances have been due to uterine displacement, and that simply maintaining the uterus in its normal position will result in symptomatic relief. However, it should not be performed when tubes and ovaries have to be removed, as the intact ovarian ligaments are the only sturdy structures capable of exerting counterpressure against the pull of the implanted round ligaments. Neither should it be relied upon exclusively to support a heavy subinvoluted corpus without plicating the uterosacral ligaments at the same time. Suturing the round ligaments too low on the posterior surface of the corpus predisposes to recurrence of the displacement.

The Crossen modification of the Gilliam operation also causes little trouble in event of subsequent gestation and delivery. Some patients complain of soreness in the region of the round ligament attachment during the early months of pregnancy, but this is of little consequence. The Crossen-Gilliam operation is not contraindicated by salpingo-oophorectomy but the postoperative antero-posterior excursion of the corpus is somewhat limited.

Ventrofixation of the uterus has the great disadvantage of practically immobilizing the top of the corpus, and should be used only in those cases in which the round ligaments are so short and thick that they cannot be conveniently plicated, or when it is necessary to complete the intraperitoneal work quickly after the removal of large adnexal masses.

Coffey's plication of the round and broad ligaments is only useful when the tubes have been extirpated at a previous operation, and the round ligaments are greatly attenuated.

Mann's plication of the round ligaments is indicated when the uterus is small and not to be sacrificed, and one or both of the round ligaments is usually long, but not much thinned out.

I have found these operations to be the most useful and satisfactory, and have practically discarded all other operative methods.

The Condition of Mental Health As A Part of The State Health Program*

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INTRODUCTION

MISSISSIPPI IS to be congratulated for:

A. Its recognition of the magnitude of the problem of mental disorder.

B. Its foresight in recognizing the serious threat of the future in terms of mental disability, and the grave necessity of laying foundations for a public health structure that will be ready to deal with it.

C. Its formulation of plans to deal with this problem.

D. Its place among the first states to bring under the jurisdiction of the State Health Department, means to prevent, detect, diagnose, and treat, not only physical disorders but also mental disorders, and

E. Its creating a mental health unit in its State Health Department.

THE MAGNITUDE OF THE PROBLEM OF MENTAL DISORDER

We are a nation of about 130,000,000 people. Two million of our people are victims of formal mental disorder of such nature as to be statistically covered[1]. The illness of these 2,000,000 people influences directly the lives of 5,000,000 other people through blood relations and family ties[2]. Six hundred thousand patients reside in our mental hospitals[3], filling 58 per cent[4] of the bed capacity of all hospitals, and 120,000 patients are entering hospitals each year[3]. These figures do not comprehend those disorders wrongly diagnosed, and neither do they cover many patients treated outside of the hospitals, nor do they cover the beds occupied by prisoners, many of whom are motivated and led to criminal acts through psychiatric conditions.

It is estimated that $210,000,000 are spent each year[5] in maintaining our mentally ill in hospitals, and if to this is added the economic loss as a result of unemployment, the figure becomes $777,000,000. With this figure, bear in mind that the government has spent to date in care and pensioning of its veterans of the last World War who were neuro-psychiatric casualties, one billion dollars[7]. To this add the expense of rehabilitating Selective Service rejectees, and then the cost of the outcome of this war, and one can think in dollars and cents if his conscience is so constructed.

In the past we have largely thought of mental disorder in terms of psychoses, defectiveness, and delinquency, but today that great sub-heading "psychoneuroses" must be considered. With modern concepts we are coming to recognize the failure of deterrent punishment and the extreme importance of psychiatry in the prevention of crime.

The psychoneuroses and their end result in so many cases—chronic invalidism, probably today carry the greatest incidence of mental disorder; I would think even greater than schizophrenic reactions. We have no way of learning of their prevalence because of the subtle way they simulate physical disease, the fact that they are so frequently misjudged and misdiagnosed by the average physician; and because so many of these patients seek non-medical help, and because hospital statistics are irregular on the matter. Nonetheless, it has been said by some physicians that 40% to 50% of all patients who consult a physician, do so directly or indirectly because of emotional disorder. Another authority, Mikkelson, says 85%[8]. My own figure would be around 70% to 75%. Parney states that of 35,000 Canadian workers under his care, psychoneurotic patients lost an average of 32 days a year, an average exceeded only in cases of tuberculosis, cancer, organic nervous disease, and cardiac conditions.

It is obvious, therefore, that the psychoneuroses alone strike deep into our social and economic life. Patients with this order should be considered from the standpoint of:

A. Their prevalence.

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B. Being so frequently misunderstood, misjudged, and mismanaged by physicians.

C. Being human vessels of restlessness, discontent and agitation.

D. The fact that they are an unhappy group of people, many of whom are unproductive, and yet victims of a disorder that can be alleviated immeasurably.

E. The fact that their number is increasing as a result of the world crisis.

WHAT ARE WE TO DO?

Certainly if we stand idly by, we cannot enjoy in the future the reputation we have enjoyed in the past. The psychiatrists cannot tackle the job alone. Organized medicine must accept this challenge, accept it with a serious sense of responsibility, and lend us every help if we are to keep faith with our public. But what about those who cannot enjoy the blessings of private medical care, who is to help them? The problem must be attacked on a state-wide basis through the state health department, with a well planned program formulated on modern principles. There are 3071 counties in the United States, 1665 having public health organizations[9]. With the state set-up branching out into these counties having health organizations, the start can be made.

Why can't we psychiatrists do the job alone? First, because the job is too big; and second, it is essentially a public health question. There are only 2300 psychiatrists in the United States[10], (the army has many of them now). Of these 54% are employed in mental institutions which for the most part render them unavailable for the early treatment of mental disorder, and certainly these men could not enter directly into a preventive program. Those men outside public and private hospitals are concentrated in the eastern section of the United States. If the ones we have were evenly distributed throughout the United States, there would be only one to 57,247 people[10]. They constitute 1.2 per cent[9] of the physicians in the United States. This in itself is a sad commentary on the interest of the medical problem and lack of vision shown by medical educators.

Attempts to meet this problem have been made in the past through the Child Guidance Clinics, but there have been only a limited number of them. Reviewing the clinical facilities for child and adult psychiatric problems we find that many cities of 50,000 to 100,000 population have no qualified psychiatrist in practice. About one fourth of the cities over 100,000, and almost two thirds of those between 50,000 and 100,000 have no psychiatric clinic facilities for children or adults[10].

The state department of health has the advantage of being already organized as a state agency throughout the country and accepted as the proper agency to deal with problems of health. It has enjoyed extreme success in the past and holds the confidence of both the public and the profession. To me this is the ideal organization through which to approach the problem of mental disorder.

Some physicians think that mental disorder more specifically belongs to the state hospital system, thus being a structure in which any plan and program that is directed toward mental disorder should be incorporated. However, there are those of us who disagree because of the following reasons:

A. This system, as a result of nothing it has done, is stigmatized, and the public holds to such an attitude and belief. Organized medicine has neglected the mentally ill, and has never fought with any degree of strength and consistency for the improvement of conditions in these hospitals, thereby bringing this great agency for health on a more scientific preventive and therapeutic level of function.

B. With the exception of a very small number of state hospitals in the East, most of these hospitals essentially function on a custodial basis, giving domiciliary care.

C. Because it is dominated by politics, it has become a system where politicians can extend patronage to their admirers and followers in the medical profession, thus making it unattractive to young workers in psychiatry who want to rise on merit in a setting of reasonable security of tenure.

D. Any approach to this growth problem of mental disorder must work to a very large extent with the child and the adolescent. Certainly any maladjusted child or adolescent laden with fear, would not fare too well in a setting of the state hospital system.

E. There is perhaps less political chicanery in the state health departments than in the state hospital systems.

PLANS AND PROGRAM FOR STATE BOARD OF HEALTH

Any plan, of necessity, must be a long-range, long-term one. There must be a willingness to deal with stupidity, apathy, indifference, ignorance, superstition, facetiousness, and ridicule. One deals with many more of these unfortunate attitudes in mental disorder than in physical disorder.

There must be a willingness to assume the attitude that mental health is associated more directly with social, political, and governmental factors than is physical health. The individual functioning in his family group is the object of therapy.

There must be a willingness to accept the subtleness of mental disorders, deal with them practically without losing perspective, and without declaring irresponsibility by saying, "they are abstract, and we cannot deal with the abstract."

Everyone in the department of health must be encouraged to recognize the unit's significance and its importance, from top superior to bottom subordinate.

Thus is the way paved for the actual installation of the unit.

Adequate quarters must be provided, and these quarters should always be directly located within the health department. If they are in a school or courthouse, the good intentions behind its conception will be invalidated because the unit will be identified wth these agencies rather than with the department of health. The unit should always be identified with the department of health, and the fact established that it is a subdivision thereof.

Its director should have training in public health, formal psychiatry, child psychiatry, and all the principles of mental hygiene. By disposition he should be patient, forbearing, and not easily discouraged; one who is diplomatic at all times with both physicians and laymen. He must be one who can think well on his feet, with good judgment, and some administrative ability; one who by fitness can work hard and consistently. He must be one who mixes well with other health workers; one who subordinates well to the director of the department of health, and never loses his perspective as fundamentally a worker in the field of public health. He must know his region and localities thereof, with their peculiar difficulties, cultural patterns, and ways of the people who live within these areas. Quite a person! Yet such men are to be had.

He must then pick his co-workers, and of course their number depends upon his budget, the extent of his duties, and the opportunities for work. From patterns fairly well established, he will choose a psychologist who will run tests on his patients for intelligence and aptitudes, as well as special tests for special conditions. He needs a social worker to make home visits and study more specifically the environmental setting in which the disorder came into being, and correlate the physicians' needs and efforts with welfare, educational and correctional agencies. In some organizations where there are prejudicial attitudes against the social worker (although I assure you a *psychiatric* social worker with a pleasant personality and the proper point of view is an invaluable helper), a public health nurse of the proper temperament and interest, with some training, will serve in this capacity. In addition there should be a secretary to help in record keeping and filing. This is a small group that must work together in an integrated way with each patient.

The program might very well start out with a period of survey and orientation, during which specific plans are drawn up. Based upon the results of this preliminary study, the unit's program will be initiated, beginning at a fixed point and then branching out through mobile, traveling clinics.

The results of its work will soon crystallize into that which is educational and that which is remedial. The educational work is of tremendous importance. It should comprehend plans for the director taking part in the state and county medical society meetings through papers, talks and actual case presentation; through daily or weekly interchange with other workers in the health department, particularly health nurses, through consultations, conferences, and demonstrations of concrete results. There should be a close relationship between the members of the unit and the department's statistician and epidemiologist. Educational efforts must also reach the state and community educational systems, and thereby the teachers; the social and welfare agencies and public minded citizens and their organizations. The necessity for tying in with the medical school is obvious, but this often is overlooked. I stress its importance.

The remedial work should be broken down into that with children, adolescents, adults—but largely it will be work with children. This would be effected through cases referred from other workers in the department, particularly the nurses; private physicians who have patients who cannot afford private medical service, and other health and welfare agencies. The remedial program must bring the group into prenatal and maternal welfare clinics, postnatal follow-up clinics, children's clinics, juvenile courts, occasional cases from domestic relations courts, venereal disease clinics, and adult clinics of various sorts. Interest in the school system is paramount, in the recreational and amusement facilities of the communities, in the factors, and occasionally, when needed the unit psychiatrist may serve cases coming before the courts.

Such a program might function on a schedule of two days a week for children, two days for adults, and two days for educational work.

Many adults who would seek help directly, will be helped indirectly through conferences, forums, and discussion groups in which they may take part. Parents who bring their children to the clinic will themselves be helped, and in turn impart the value of mental hygiene to their kinsmen and friends. This contact with relatives should be stressed because it offers a great opportunity for the physician to help build good will for the medical world. something which we need today. The director must be familiar with all the training schools and correctional institutions, and take part in any program directed towards their improvement. Needless to say, one of the greatest opportunities of all will be that of following up paroled and discharged patients for the state hospital system.

THE FUTURE

What will such a program do for the public? It will obviously prevent many a casualty, increase the happiness, efficiency, productivity of many individuals in times when we need men, and men who are stable. It is estimated that each commitment costs the state between $5,000 and $7,000[9] and the state hospitals are terribly crowded. Saving three commitments a year will save the state sufficient money to found a unit and get it well on the way.

Bahr[11] states that if Indiana's system of community mental hygiene services had been extended a few years ago to cover the entire state, from 15% to 20% of patients treated, who would under ordinary circumstances be committed, would not have become institutional cases, thus saving the state approximately $583,440 each year. He estimated that this state could have saved $282,452 more annually by the discharge of approximately 15% of the institutional cases if adequate mental hygiene clinics had existed for parole supervision.

Only $5,000,000 is spent a year on research in nervous and mental disorders. Isn't this a ridiculous figure when we think of the figure of its actual cost to our people?

The Surgeon General is to be commended on the campaign he has started on venereal disease prevention and treatment. However, one of the most important factors as I see it in its ultimate effectiveness, will be the direct assistance given the program through mental hygiene. Sex alone will be one of the most important topics to consider because it is directly associated with venereal disease.

The problem of drug addictions has been approached from a medical point of view by the United States Public Health Service and I don't believe any of us will doubt its efficacy. Alcohol is to come next. Therefore, if any program for combating venereal disease is considered, to make it a comprehensive, well articulated one, sex and alcohol will have to be brought in, and certainly these are questions of mental hygiene.

We are at war, likely to be a long war, a war with no battle lines, a war of the civilian as well as the soldier, in a world that is changing, and in which "propaganda is replacing education, substituting incubator-made attitudes for thinking, and malicious gossip for facts[11]." Our people are beset with doubts, insecurities, and are in need of any help that will stabilize them for what is going on and what is to come.

Thus, anything that organized medicine and public health workers can do to help meet these tremendous problems of mental disorders in a nation at war, will bring great dividends in terms of national and public gratitude.

Anything to help the child, to help youth to choose more effectively a career, work, marriage, the responsibility of parenthood, community and national life, is a grave undertaking. Industrialists, politicians, and labor leaders will not consider it their responsibility —it is not; rather it is that of the man who has always enjoyed a unique place in the fabric of human society—the physician, and his allied workers and organizations.

No program will ever be adequate, and any that is planned must be planned with the idea of growth, expansion, and extension, because the world as it is today, and the world as it will be tomorrow will always furnish problems of human health, happiness, efficiency, and creativeness.

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DISCUSSION

DR. A. O. SCHMID (Jackson): I deem it a privilege to discuss this eminent paper. It is a question which is close to my heart. I want to take the privilege of saying that about 8 or 10 years ago, in the eastern part of this state, I laid a campaign in the rural districts trying to stimulate a program of mental hygiene. At that time I stated on numerous occasions that every county health department unit should have a man on mental hygiene. I further stated—maybe I am wrong and the idea is far fetched—that every expectant mother and the father too, should have a training in competent hands as to the future emotional training of that expected child. I wondered then how many of the so-called mental breakdowns we could prevent. Certainly the number would have been enormous. At that time we knew the economic situation and staffs of our mental hospitals, and we knew the percentage of admissions could be cut down. We also knew if we could provide those who were returned to their homes with the aid of a department hygienist, they would not return to the hospital.

Clifton Beers, a laymen, deserves the credit for laying the foundation for mental hygiene, and if we all would read Clifton Beers' work and follow him we could readily recognize that mental hygiene has an important factor in public health matters. It is not assuming too much to say that if we can prevent physical disease we might also prevent mental disease. The trouble is that it is so universally misunderstood. Even the physicians take the attitude, "Why should I want to fool with mental diseases? I can not care about them." It is our duty to inform ourselves about them. They are of such importance that the entire medical profession should have been here listening to Dr. Watters. This type of program must begin, as Dr. Watters has told you, with public education. There was a time when a diagnosis of tuberculosis or cancer placed a stigma on that person. Who educated him? The public. Much was done by the patient himself. The same thing can be done in mental disease and I am glad that our Health Department has progressed farther ahead than any Southern state in pushing this program.

This program must grow in the news, the press, the public, the school, the church, wherever the minds of the public at large are reached. It is surprising what interests can be aroused in the P. T. A., business men, church organizations, and so on. It must be every doctor's duty to inform himself to some extent on the subject matter of psychiatry. It has been a consoling thing to note the number of physicians in the last few years who have referred work to me, recognizing the direct neurosis, the much abused patient for whom much can be done. We have patients in their distress who can be saved by simply a telephone message. That is treatment, scientific treatment, and it is important. Isn't is important to know that the U. S. Government has impressed the Selective Service that thousands of dollars can be saved in public funds that were not saved in the last war by exercising care in selecting only individuals of sound personality as well as sound bodies? Selective Boards say when I tell them So and So had a neurosis, or a personality change, or a personality difficulty "What has that to do with the Army? The Army will help him." Such an argument is not only wrecking that man's life, but is doing the public harm, and adding to the burden of the taxpayer.

Oftentimes a man who has been on the staff of a state hospital says, "I did not recognize that the subject of psychiatry is so interesting, and so closely connected with the subject of medicine." It is. Every sick individual that you treat has probably a neurotic or pediatric problem behind him. England now is experiencing the result of the so-called war of nerves. England's hospitals are filled. Even though we are never bombed, even though we are never invaded, the results of this war, the propaganda enemy will leave its mark upon us, and our duty is to the coming generation. When I taught this subject I used to tell my students not to put too much stress on heredity. The hereditary taint may be there, but I believe that home environment and training can make a praecox, and contribute much to the neuroses we see. When we see several members of one family neurotic, some of these cases have been patterned after their parents and the home environment. I believe that every school system should have a psychologist who could refer the cases to the mental hygienist. The trouble will be the stigma that has been placed upon mental diseases when in fact there is no stigma; if there is, then we are all stigmatized, because any of us may have a mental as well as a physical disease. Let us teach the public.

DR. WATTERS (closing): You have certainly been kind to me, particularly in my discussion. Recently I gave a talk before the Louisiana Academy of Science, and the man who drew up the figures of one policy, the cost of taking care of our afflicted ones at the close of the last war, also gave us this statement: Ninety-five per cent of those who had broken down at the close of the war, showed definite evidence of having mental trouble at the time they were inducted into the Army. I think it is rather important inasmuch as Dr. Schmid has brought up Selective Service.

I would remind you of just one more thing. Possibly the patient who gives the medical profession the most money is the psychoneurotic, and he is the one the medical profession abuses most.

A warning that the nervous system is frequently injured by the sulfa drugs, and anaemia often produced also, behooves us to move with more caution in administering these valuable drugs. As someone puts it, "the more toxic these drugs are to bacteria the more toxic they are to the human cell." Idiosyncracies should be kept in mind, and an adequate fluid balance maintained.

Recent Research In Poliomyelitis*

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POLIOMYELITIS IS not a new disease nor is it new to the medical profession; yet comparatively little had been done until most recently to carry on a regimented scientific investigation into its cause, means of prevention, or rational treatment.

The very nature of the disease made it almost impossible for any one man or even group of workers to amass any great experience. The disease occurred in infrequent outbreaks, unpredictable as to time or location. While there have been from 3,000 to 10,000 or more cases reported annually these have been scattered over the entire United States. Not only has the distribution of cases made the disease difficult of study but, like all virus infections, the cost of investigation was almost prohibitive.

Great credit must be given to those pioneers who first demonstrated the presence of the ultra-microscopic agent and showed that this was the cause of infection. For many years little information was gained to add to that which was originally given — that monkeys could be infected with poliomyelitis and that apparently other animals could not. In over a quarter of a century too few monkeys were available to test such important items as the distribution of the virus in nature, the means of spread and the vectors involved in its dissemination, the parts of the human body infected, and the channels of elimination from the body.

There are important questions. Answering them calls not for a few studies in a few isolated laboratories using but a limited number of monkeys. It calls for work in scores of laboratories employing many scores of workers, and living test tubes by the thousands.

The National Foundation for Infantile Paralysis has provided a means whereby these questions can now be approached. As is well known, of all the money raised for the Foundation each year by popular subscription, one half stays in the community where it is raised and is used under the supervision of the local chapter for care and treatment of the afflicted. The other half goes to the National Foundation and is used for its several purposes. These funds give the Foundation money with which to assist states, cities, or localities in times of major epidemics. They provide money for carrying on programs in education, not only of the public but of doctors, nurses, and other skilled and technical persons.

And, probably most important of all, money now is available for extensive research. The National Foundation has elected not to establish its own research laboratory, building up an institution devoted solely to the study of poliomyelitis. Rather, it conducts its study program through grants made to institutions already prepared and equipped for special types of work. Each year many hundreds of thousands of dollars are made available to more than sixty universities, hospitals, and research laboratories. It is in these institutions throughout the United States and Canada that research in all phases of poliomyelitis is being carried on by trained and skilled persons.

Great advances have been made during the past few years. Without attempting to give credit to specific workers and specific institutions it may be pointed out that now it is well known that the poliomyelitis virus is widely spread in nature. It is eliminated with the feces from the human intestinal canal. The clinical case with paralysis represents but a small percentage of the total number of individuals infected during any epidemic or even a minor outbreak of the disease. The virus is known to be highly resistant; it withstands extremely low temperatures and drying. Many chemicals which inhibit the growth of pathogenic bacteria have little or no effect on this virus. It is found in sewage from epidemic areas. It has been shown to be carried by flies. In at least one laboratory under experimental conditions mosquitoes have been artifically infected. The virus has been found by others in the blood of laboratory animals. Infection has been produced in the susceptible animal by feeding, by direct application to the olfactory nerve endings, by inhalation, by intracerebral or intraperitoneal routes, by intradermal and subcutaneous injections, and by contact with nerve tissue.

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*Read before the Seventy-Fifth Annual Session of the Mississippi State Medical Association. Jackson, Mississippi. May 12. 1942.

While the evidence is not complete it would appear from the information at hand that there are possibly many ways of transmission of this disease. The human may be infected by the food he eats, the water he drinks, or through the air he breathes into his system. It is not beyond the realm of the possible that biting and blood-sucking insects, too, may play their role.

As yet no means of control are at hand and the laboratorian is not ready to give specific instructions to the sanitarian how to prevent dissemination of the disease. But information is being accumulated at such a rapid rate that it is almost safe to predict that the near future will permit of such specific directions.

In other laboratories studies have dealt with the relationship of nutrition and susceptibility. These are all too incomplete to permit of any conclusions; yet it has been hinted that the poliomyelitis virus—complete parasite that it is—thrives best and multiplies most rapidly, and therefore does the most damage, in the body cell that is well nourished, abundantly supplied by vitamins and a complete quota of enzymes.

Diligent search goes on for some means of destroying the virus once it has entered the body. As yet the laboratories have not been able to report finding a drug that will kill the virus and leave the host unharmed. The results, though, are more valuable than would seem. At least it is known that of a long list of drugs of proven value in other diseases and serums that theoretically should be of service in poliomyelitis, none is of therapeutic avail.

Research is not limited to the virus alone. Much is being done to study and improve therapeutic techniques. Before treatment of a rational nature can be instituted it is well to know something of the pathological changes.

The disease is blessed with an array of misnomers. It certainly is not infantile paralysis. It does not limit its victims to infants and only a small percentage of those infected ever are paralyzed. The supposedly more scientific name, acute anterior poliomyelitis, does little better in describing the disease. It does appear to be an *acute* infectious disease but it is not limited to invasion of the gray matter of the spinal cord. The sympathetic nervous system, the posterior roots, the lateral columns, the basal ganglia, portions of the cortical structure, and the meninges all more or less are involved apparently in every case where the nervous system is invaded. Non-nervous tissue, too, may very likely support growth of the virus. The inflammation of Peyer's patches has been advanced as evidence of acute infection of the intestinal tract, accounting in part for the vast outflow of virus in the stools.

With such extension invasion clinical symptoms other than paralysis due to destruction of anterior horn cells must be expected. Much diligent histological and pathological study is needed to complete the understanding of what happens in the human body once it has been infected, but certainly the disease is far more than one of the anterior cells.

With this somewhat different concept of the infection it is only natural that the medical profession would be ready for the introduction of a newer and different method of treatment. It is interesting that the most discussed form of treatment advocated in this country today has been given by a nurse, Elizabeth Kenny. Kenny knew much of anatomy but little of pathology and certainly nothing of that which has been presented in most textbooks as the symptomatology of poliomyelitis.

Kenny has advocated a different form of treatment based on a different idea of the symptoms of the disease. She even had developed new treminology. Her terminology must be used in spite of the complications thus produced simply because there is nothing better.

Kenny contends that the basic symptom of poliomyelitis infection is "spasm." This is certainly the one most prominent symptom, and is present in all clinical cases. By "spasm" is meant a hyperirritability of muscles, or an actual contraction, or a fibrillation. She has taught that "spasm" is present not in the flaccid muscle but rather in the opposing muscle or muscle group. This "spasm" acts to pull the other muscle out of its normal resting length and to act as a brake, thus creating a situation of apparent paralysis. A muscle cannot produce motion when its opponent is fixed, spastic, or shortened.

This inability to move, coupled with the fact that efforts to contract produce pain in the muscle in "spasm," causes that muscle which is not necessarily directly or immediately affected by the central nervous system pathology to become "alienated." Literally, it is thrown out of the muscular economy and ceases to function. The "alienated" muscle is the one which has been called paralyzed. Therapy has been directed toward this, overlooking the real offender and the obvious "spasm."

That this is not wild theory and uncontrolled imagination is shown by at least two facts. First, and of great importance, a therapeutic régime based upon this idea yields astonishing clinical results. Secondly, research by several workers, principally R. Plato Schwartz and his associates at the University of Rochester, shows that Kenny has described exactly what does happen. In a paper recently submitted for publication Schwartz has reported that electromyographic studies with a sensitive oscillograph show that there *is* "spasm" in the heretofore considered uninvolved muscle, that action potentials are tremendously increased, that the "paralyzed" muscle may be served by a nerve capable of carrying stimuli, and that reflex impulses can be demonstrated going from the "spastic" muscle to the one that is "alienated" or that which has been called paralyzed.

That an individual muscle can be thrown out of control, unable to contract in spite of an uninjured nerve, is a common experience of orthopedic surgeons. All have seen the inability of some patients to contract the quadriceps femoris after a knee operation or in the presence of other painful lesions of that joint. Prolonged physiotherapy may be needed and exacting muscle re-education may be called for to re-establish function. Yet there is no true paralysis arising from nerve damage.

In addition to "spasm" and "alienation" Kenny has described a third condition which she has termed "incoördination." By this she means that set of symptoms having to do with the attempts of a patient to produce joint motion by use of muscles other than the "alienated" muscle, or by muscles attempting to perform functions not commonly undertaken by them. Such action produces abnormalities of muscle balance and relationships which are well described by her term. These action patterns further contribute to and tend to maintain the state of "alienation." "Alienation"—or dysfunction bad as it is of itself, may lead to permanent disability because of the consequent atrophy of disuse.

In addition to these major symptoms of "spasm," "alienation," and "incoördination," Kenny recognizes that there may be dysfunction because of complete destruction of motor nerve cells. Such a state is relatively infrequent and its presence is admitted by her only after appropriate treatment has failed to produce a return of function. The end results of this are, of course, paralysis which cannot be benefited by physical therapy.

Much unjust criticism has been directed at Kenny and her method of treatment of those who failed to appreciate that she recognized the existence of this condition. One of the real differences in the two schools of thought is that the older considers all muscle dysfunction in poliomyelitis to be due to anterior horn cell destruction, while Kenny recognizes that loss of contractile power may be due to other processes ("spasm," "alienation," "incoördination") which are susceptible to appropriate therapy. The one thought, of course, holds forth small hope for the patient while the other, as advanced by Kenny, admits of an active corrective and remedial régime.

The Kenny treatment is relatively simple to describe but rather difficult to apply. "Spasm" is treated by the application of hot foments. This is aimed solely at relaxation of the muscle in "spasm" and should be looked upon merely as preparation of the affected part for the careful muscle re-education efforts designed at overcoming "ailenation" and "incoördination."

Hot moist heat, to be most effective, should be applied as early in the course of the illness as possible, preferably immediately upon diagnosis. This form of treatment today should be used as dictated by Kenny, not because other techniques may not be possible but because that advocated by her has been shown after careful evaluation to be good. There has been neither time nor opportunity to appraise variations. Hot foments are solely for the purpose of relieving "spasm" and pain. They have no effect on the disease process of the central nervous system, nor can they overlook other symptoms.

Re-education of muscles, aimed at overcoming "incoördination," is started as early as pain and "spasm" will permit. Briefly, the basis of this form of physical therapy consists of re-creating an awareness in the mind of the patient of the existence of the muscle and its proper function. This result is accomplished first by the gentlest of passive motion, and then, as the patient's condition warrants, by carefully and completely supervised active motion. Overcoming "incoördination," too, depends on skillful physical therapy and muscle action control.

It is not the purpose of this paper to present the detailed techniques of hot fomentation or muscle re-education. Suffice it to say such are markedly different from practices ordinarily employed. Yet once the reason for their use as advocated by Kenny is appreciated, and once their use is mastered, they become rational and reasonable. Certainly they are efficacious. The Kenny method does not cure paralysis nor does it prevent it (although certain well trained orthopedic surgeons with a wide experience in poliomyelitis have expressed the opinion that Kenny's methods may actually decrease the incidence of residual paralysis). However, there can be no doubt that patients treated by this method by well trained technicians have a complete freedom from all contractures. There is no scoliosis or joint stiffness. There is no urinary retention. Trophic ulcers are unknown. All pain disappears very quickly. Further, in the hands of skilled Kenny technicians respirators are not needed. Respiratory failure, according to the Kenny idea, is neither bulbar in nature nor due to "spasm" of muscles of breathing. Properly applied hot packs relieve this "spasm" plus steps taken to overcome "alienation" and allow for the normal breathing process to be resumed. Bulbar poliomyelitis, of course, ordinarily is only harmed by the use of a respirator.

Immobilization by the use of splints or plaster casts has no place in the Kenny technique. Such immobilization tends only to increase "spasm" by placing involved muscles on the stretch. It increases "alienations" by adding one more factor which, combined with the already present "spasm," makes it ever more difficult for the "alienated" muscle to find once more its place in the muscle balance. In addition, immobilization by plaster or splints tends to interfere with circulation. This hastens atrophic changes and markedly delays regeneration of both muscles and nerves.

This is another phase of the Kenny régime which has been carefully analyzed by laboratory investigation. Experimental animals have been subjected to nerve damage quite comparable to that found in poliomyelitis. A marked delay in recovery was experienced when the part was immobilized. While immobilization by splinting has no place in this régime, no patient was ever handled more gently or more carefully than are those treated by Kenny.

There are no miracles. The same good results achieved in Minneapolis by Kenny have been had in New York, in Pittsburgh, in Winnipeg, and elsewhere. When patients have been treated for these newly described symptoms of an age old disease by persons trained to apply well known therapeutic modalities, much of the dread is removed. Deformities are prevented and patients who do not fully recover are in a condition to receive the maximum benefits from reconstructive orthopedic surgery.

NOTE: All references to publications have been deliberately deleted from his paper. Such references would comprise a too extensive bibliography.

DISCUSSION

DR. N. C. KNIGHT (Meridian, Miss.): I want to compliment Dr. Gudakunst on the thoughtfuless and effort that he has spent in the preparation of this paper. It is a most enlightening discussion.

I want to say a few words about poliomyelitis from the standpoint of the services that the local health department is in position to render in the control of the disease. First and most important, I believe, is a medical diagnostic consultation service which the health officer can do himself for the private physicians of the local area. I do not mean to try to impress you with the point that the health officer is an expert diagnostician regarding polio, but I am sure that he knows more about the diagnosis of the disease than the usual practitioner of medicine. The reason for this is that he sees all the cases that occur in his local area plus some others, while the general practitioner only sees those that occur in his own practice, and except in times of epidemics those are very few. Because polio is regarded as a communicable disease, it is the health officer's business and duty to know the latest developments in diagnostic and control measures and facilities available for treatment and correction of crippling defects. For these reasons the health officer is in position to render a definite service here.

A local health organization such as the county health department in Mississippi knows the local needs better than anyone else, and knows what methods will be acceptable to and fit the local community best. For this reason the local health department can perform a definite function in the dissemination of accurate, wholesome, and constructive information to the public regarding the disease and its control. The local health department also can serve as a coördinating, centralizing, and guiding agency for the local chapter of the Infantile Paralysis Foundation and other agencies interested in activities regarding this disease.

Another important service provided by the local health department is that of nursing service. The health department is in position to provide nursing service for assistance in clinics, case finding, and case follow-up service.

The health dapartments are also in position to provide clerical and laboratory service and a limited amount of supplies for control measures of this disease in the local area.

I cannot close this discussion without paying tribute to the Crippled Children's Service of Mississippi which is very active in the correction of crippling defects resulting from this disease, and which is headed by Mrs. J. F. McDougal. This organization has done and is continuing to do an outstanding piece of work with very limited finances. It is a great pleasure to the health departments in Mississippi to be associated with and to work with Mrs. McDougal and her staff.

DR. HARVEY F. GARRISON (Jackson, Miss.): Dr. Gudakunst has certainly given a very comprehensive review on poliomyelitis. I feel that he has expressed the opinion of the majority of physicians relative to the Kenny method of treatment.

I have just returned from the University of Minnesota where I took the course given in the Kenny method of treatment. Miss Kenny observed Poliomyelitis some twenty-five years ago when she did not have a doctor to help her in its treatment. She noted spasms, and by the use of hot packs was able to relieve them. She then developed a system of muscle reeducation. Her treatment for infantile paralysis is based upon a different concept of the disease from what we have had before of this disease. A definition of infantile paralysis based on the Kenny concept is that it is an acute infectious disease in which the causative agent (virus) attacks and causes varying degrees of injury and deterioration of the neuromuscular system, marked in the acute state by (1) muscle spasm; (2) mental alienation (pseudo-paralysis, patho-physiological paralysis); (3) incoördination; (4) muscle weakness and paralysis.

The cause of muscle spasm is unknown. It is not like true spastic or cerebral origin. Some think it is due to irritation of the anterior horn cells. It might be a neuritis. However it originates, you must treat the area in spasm. Most all cases have spasms in neck, back and hamstrings. Spasm is simply and attempt of the muscle to shorten itself. I do not know why, but I do know that it must be treated before three weeks from the onset or no results are obtained, and you do get contractions. They are most common in the posterior muscles but may affect any and opposing muscles. They interfere with the normal range of motion. Also, a muscle in spasm is weak. The ability of power in a muscle is the ability to work when long from its normal relaxed position. This is one of the important points in the Kenny treatment. Her tendency is to lengthen the muscle in spasm. The former orthopedic treatment has been to shorten it. Spasm is the basis of mental alienation, and unless the spasm is treated, the alienated muscle will not come back.

There are two types of incoördination (1) resulting in incoördination of use of other muscles by the substitution of one muscle when the patient thinks he is using the muscle he is told to contract, (2) incoördination in the muscle itself.

Mental Alienations: The patient has lost connection of the muscle by a physiological block (not anatomical). The muscle in spasm is painful to motion resulting in the paralysis of the opposite muscle.

Destruction of Horn Cells: (An anatomical disconnection from the central nervous system). In this type there is usually no opposing muscle spasm present. This paralysis in contrast to mental alienation is usually a whole group of muscles to an entire extremity.

The respiratory is not a physiological instrument in infantile paralysis because it was designed for a disease with flaccid paralysis, but here you really have spasm; and if you can relieve the spasm, the patient will breathe all right provided there is no bulbar involvement. Miss Kenny says any case that recovers in the respiratory would have recovered without it.

Now that the older treatment is being done away with and a new treatment accepted, it is a good time to change our fundamental approach to the problem. Nothing must be accepted on faith or authority,—every point must be examined very critically so that therapy may be continually improved instead of again being allowed to fall into a long static period. Experimental fact must be substituted for opinion and each phase of the treatment must be subjected to thorough investigation, instead of accepting it on the basis of clinical results, such as many doctors are now doing the Kenny treatment. Only in that way can we avoid perpetuation of inadequate techniques and look forward to continuous progress in the treatment of polio.

The National Foundation is doing a splendid job in stimulating and subsidizing research in infantile paralysis.

I again want to thank Dr. Gudakunst for this very timely and excellent paper.

Dr. Don. W. Gudakunst of New York, medical director of the National Foundation for Infantile Paralysis, has been in Memphis and Arkansas, studying the infantile paralysis situation.

Dr. Gudakunst will be remembered as an appreciated guest and essayist at the May meeting of the Mississippi State Medical Association. The Kenny method of treatment is in vogue here.

A warning that polio may spread from person to person was given by Dr. Gudakunst. He urged that children swim only in pools regulated by the health department and that homes be well screened. At the first signs of trouble, put the sufferer to bed and call an experienced physician. L.L.M.

Keeping the Navy Fit*

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WHAT DOES A DOCTOR find to do in the Navy where everybody always looks healthy? This was one of the first questions that people asked me, thirty-odd years ago when I joined the outfit, and the same question is being asked by many persons today. One answer is that the doctor is busy keeping the physically unfit out of the service and trying to keep the Navy personnel in the best of health. Men on modern warships live under such artificial conditions that new and unique problems are constantly arising to challenge the ingenuity of the doctor who is trying to keep the men healthy in spite of the conditions under which they live.

Man has never succeeded in producing a mechanism more complicated than a battleship or an airplane carrier. The battleship is essentially a gun platform and the carrier is primarily a landing field. As a secondary consideration, each is also the home of a thousand or more men who eat, sleep, work, play and go to the movies amidst guns, explosives, high speed machinery and inflammable materials of many kinds. To provide fresh air, safe water, good food and healthful living conditions for men on board ship involves enough intricate problems to keep the doctor busy.

To begin at the beginning, the Navy elects its men with great care, and only those with excellent physique are enlisted. A study, which was finished shortly before the national emergency, showed that of every 100 men applying for enlistment at a recruiting station, only 11 were finally accepted and sent to ships of the fleet. Since the enormous expansion of the Navy has gotten under way, the requirements have been somewhat relaxed, but the physical examination remains a stiff hurdle for a man with any bodily defects. As a part of this examination, an x-ray is taken of each man's chest to detect any tendency to tuberculosis, and a blood test is made. This is to prevent sabotage by disease, for illness can be just as effective as people are, in fifth column work. An epidemic of contagious disease may put the most powerful warship out of action for a long period, so it is worth while to take every precaution to keep sickness away from our vessels.

When a recruit enters the Navy, he is vaccinated against smallpox, inoculated against typhoid, and receives injections which protect him from yellow fever and tetanus. These diseases, which have provided so many of the horrors of former wars, are now almost entirely eliminated. Many will ask why it is necessary to bother about prevention of smallpox, for we don't see much of it nowadays. But don't fool yourself. In the Pacific Coast states where most of the fleet was stationed until recent months, they had more than 1200 cases of this disease in 1938. It has been said that the smallpox rate is an index of the intelligence of a community, with a low smallpox rate indicating high intelligence.

In the Orient, where our ships and men will be seen with increasing frequency from now on, smallpox is a common disease and one is likely to encounter persons suffering with it in any public place. Men being sent to countries where cholera prevails are given the protective inoculation before sailing. By these means of preventing disease, we are able to save hundreds, even thousands, of our men from death or long periods of sickness.

Wherever large numbers of men are required to live, work and sleep in a confined space, as they are on a warship, ideal conditions are created for the spread of disease. To keep the men healthy, it is necessary to maintain careful supervision of the air, food, water, personal cleanliness and general sanitation. This is an important part of the doctor's job. He goes about the ship constantly, checking on conditions in the bakery, the barber shop, the laundry, baths and toilets, the galley where the food is prepared, the clothing of the men, the temperature and humidity of the air, the bunks and living quarters of the men. His recommendations to the captain on matters of hygiene are followed by prompt and effective action, for those in authority in the Navy are convinced that a healthy crew is necessary for success in battle. This matter of safeguarding the health of the men comes second only to the doctor's prime job of caring for the sick, and one result of this painstaking care is that the rates for sickness and death in the Navy are far below those of the United States as a whole.

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*Read at the annual session of the Mississippi State Medical Association, Jackson, Miss., May 13, 1942.

†The statements herein are the private views of the writer, and are not to be regarded as being the policy of any government department.

When you hear about all the machines, the explosives and the other dangerous conditions on board ship, you might well conclude that burns, falls, injuries and drownings are the principal causes of sickness and death in the Navy. But you would be wrong. It may surprise many of you to know that until December 1941, motor vehicles on shore killed more Navy men than any other agent. In the calendar year 1940, for instance, there were 85 deaths caused by motor vehicle accidents, nearly three times as many men as were lost by drowning. The disease and accidents of the civil community are a much greater menace to the bluejacket than are the living conditions aboard ship. Of course, in time of war, that picture may be entirely changed.

All the activities of the Medical Department of the Navy are designed to aid in achieving the Navy's mission, which is to be the nation's first line of offense. However perfect and wonderful the guns and machinery may be, the man behind them is more important than they. It is with the men of the Navy, their selection and the preservation of their health, that the doctor is concerned. The trained Navy man is an asset of tremendous value, and the development of such a man involves a long period of training and selection. When a man is lost to the service, there is no convenient reservoir from which another can be drawn to replace him. Only through the same long and costly course of training can another be developed to fill his billet. A man sick in the hospital is of little aid in firing the guns or keeping the machinery running. So it has been found to be good economy to maintain a medical organization which has as its object the prevention of loss of Navy men through disease or injury.

Each of the larger warships has its own hospital, called the sick bay, also, two or more doctors and a dentist. The sick bay is a clean, bright compartment with every facility for the care and comfort of the sick. Cruisers and larger ships have complete operating rooms, with fittings and instruments equal to those of a first class hospital ashore. The fleets are accompanied by hospital ships, which have beds for 300 to 500 patients each, also a complete staff of specialists and all the facilities of the best modern hospitals. Many lives are saved every year by the excellent professional care provided on these vessels. Hospital ships are also fitted out as complete public health laboratories, ready for any research work that might be needed if an epidemic should break out in a vessel of the fleet.

There are more than 30 naval hospitals located along our coasts and in our naval bases. Wherever a ship of the Navy is likely to be based, a naval hospital is provided. These contain more than 20,000 beds, and many of them have been rapidly expanded since the national emergency began. A great number of specialists and general practitioners from civil life have been called to active duty for work in our naval hospitals. It is the constant aim of our Surgeon General to have the Navy's hospitals equal to the best that can be found in the United States, both in their equipment and in the quality of professional services provided in them.

Numerous naval bases have been established in places widely scattered about the earth and these have created many novel problems in medical service. Some of these bases are near the equator, while others are near the arctic regions. Some are in healthful areas where the greatest hazards are those of military origin; others are in places where the prevalent diseases may be a menace even greater than the enemy. In all of these, medical service must be provided, sometimes long before military forces are ready to be received. We must be prepared, also, to serve aviation base, submarine bases, net and mine depots, mosquito fleets, and Marine Corps expeditions. All this is in addition to our number-one job of service to the fleet.

Not only must we be prepared to protect the health of our men during the period of hostilities, but we must also be on the alert to prevent the introduction of new and dangerous diseases into our country when they are brought back home after the war. Here is one example out of the past to illustrate this point. Fungous disease of the skin, popularly known as athlete's foot, was almost unknown in this country before the soldiers of the Spanish-American War brought it home with them from Cuba and the Philippines. Now, 4 out of 5 have it, and the annual cost of treating it is estimated to be more than the $50,000,000 that Congress appropriated to fight that war.

One of the activities of the Naval Medical Center at Washington is the Naval Medical School, where a postgraduate course of instruction is given to medical officers of the Navy. There, the sanitary problems that confront us in any part of the world are studied by a staff of specialists in such research. The school has trained and equipped a number of mobile sanitary and epidemiological units, which can be rushed to any area where a new disease or a sanitary problem may be encountered. They may be sent to aid in controlling an epidemic, or they may go in advance of the armed forces, to plan the necessary sanitary engineering, so that an outbreak of disease may be prevented. These flying laboratories will also be engaged in collecting knowledge and specimens which will be of value in future teaching and research.

The dentist is an essential member of the Medical Department team. He is important both on board ship and at remote naval bases. It is interesting to note that the German Army has dentists trained and designated for duty with the air ambulance service. These specialists select the most urgent cases of face and jaw injury and accompany them by air transport to the hospitals. Ample provision is made throughout our Navy for dental work, and for care of face and jaw injuries by dental officers.

Industrial hygiene and accident prevention are of the greatest importance on all our ships and at naval stations. Here we have all the hazards of construction, metal working, handling of explosives and moving machinery. Various types of machines, explosives and dangerous chemicals must be handled, also, in repair of tanks, planes, mines, ordnance and submarines. The need for special training in industrial medicine and hygiene has been recognized, and courses of instruction for naval medical officers have been provided in some of our leading schools of public health.

Nursing at our naval hospitals and on hospital ships is done under the supervision of women of the Navy Nurse Corps. They are all graduates of recognized schools, and they maintain a very high standard of nursing service. On combatant ships, there is, of course, no place for women. Here the sick are nursed by men of the Hospital Corps. They are selected from the better educated enlisted men, and especial care is taken to choose those with temperaments adapted to the care of the sick. They are sent to special training schools, and then to our larger naval hospitals for additional practice work. It would surprise you to know what a careful and competent nurse a young man can become after such a course of training.

The Navy has recently developed mobile base hospitals, flying units of several hundred beds each, which can be quickly moved by land or by sea to any area where they may be needed. Several of these have already been sent out to places that you see in the newspaper headlines and have done valiant work there.

And where does the Navy get its doctors? In ordinary times of peace they are career men, selected by competitive examination from the graduates of Class-A medical colleges of the country. At the Naval Medical School in Washington they receive a postgraduate course in the special branches that are of most interest to the work of the Navy, such as tropical medicine, aviation medicine, public health work, also the medical aspects of diving and submarines. The peace time organization of the Navy is a skeleton just large enough to carry out the mission of the fleet at a moderate cost. When war comes, this must be rapidly expanded, and the officers of the regular service become a nucleus which has the obligation of quickly training great numbers of new men.

For a number of years, groups of the most competent physicians in nearly all large communities have been organized as a part of the Naval Reserve and trained in the ways and needs of the Navy. When the national emergency started, it found the Navy with 875 medical officers. Now we have more than 3,000 on active duty. By the end of the year, this number will be more than doubled. As the need developed, the reserve doctors were gradually called into active service, and they now outnumber the regulars many times. They come from everywhere, including Jackson, Mississippi. They have sacrificed their practices and their profitable civilian connections and are devoting their entire time and attention to the health and welfare of the Navy. If you could see more of them and their work you would understand why I am as proud to work with these doctors of the Naval Reserve. I do not think that one can find anywhere men of finer character or greater professional ability than they display. Your loss of the services of these men is the Navy's gain. The reward for doing good work in the Navy is that one is given more and harder work to do. So these reserve doctors will be given a greater and greater load to carry as the Navy continues to expand.

AFTERMATH OF PEARL HARBOR

The surprise attack on last December 7 provided an excellent opportunity to appraise the practical value of the preparations that had been made by the Medical Department of the Navy for such emergencies. I can tell you, and with considerable pride, that they proved adequate. The Pearl Harbor Naval Hospital, the U.S.S. Solace—the hospital ship, and Mobile Base Hospital No. 2 received about 960 patients within a very short time. All were cared for, fed and dressed without it being necessary to call on any outside agency for aid.

More than sixty per cent of the patients had severe burns. Others had large flesh wounds or compound fractures. In the last war, such injuries would have meant certain death, but things have vastly improved since that time. Generous use of transfusions and blood substitutes, new chemicals for disinfecting wounds, and new principles for treatment of shock saved the lives of hundreds of men. Infection, which in the last World War killed hundreds of thousands, was almost absent this time. Less than four per cent of the wounds became infected, and most of those were quickly controlled. "Not a serious infection; not a teaspoonful of pus" was the report by a surgeon who inspected the wounded some days after the attack. Doctors Ravdin and Long, of the National Research Council, examined several hundred of the injured and expressed the opinion that they were getting well more rapidly than any group of battle casualties ever before seen. We may all give thanks that the hospitals of this war will see less of the terrible suffering that prevailed in those of previous wars.

The Navy doctor may well feel that he has an important role to play as a member of the team that is working to keep the U. S. Navy the best, the healthiest and the most powerful in the world. He may not have many chances to run with the ball, but he is in there, working for good old Uncle Sam all the while.

To those of you who may have a son, a husband or a friend in the Navy, I want to say this: If you could know what complete and elaborate preparations are made for the care of the sick and injured men of the Navy; if you could see what skilled treatment is provided for them, it would go far to lessen the fear and worry that you must feel when you hear that your particular man is on the sick list. You may be sure that he is getting the best that skill, science and humanity can devise.

Another thing that has disquieted us no little, is to see an advertisement in a magazine, illustrated by a picture of a beautiful colonial mansion with a fine old couple standing on the porch bidding their son good-bye, as he leaves to enter the service of their country. Artistically printed below is an urge to use a certain brand of liquor. The horror of it!

The Venereal Disease Problem Revealed by the Selective Service Examinations and the Plan Developed for Its Solution

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INTRODUCTION

CONSERVATION OF manpower is the mission of the Medical Department of the United States Army. The accomplishment of this devolves on three factors: (1) selection and enrollment of those physically fit for military duty; (2) maintenance of health of military personnel by application of preventive medicine; (3) furnishing to the disabled such aid in the form of evacuation and hospitalization as will speedily restore them to health and fighting efficiency.

The Medical Division of the Selective Service System of Mississippi, in its examinations which were begun in December 1940, has been primarily concerned with the first factor, that is, "selection and enrollment of those physically fit for military duty," but in doing this piece of work, which entailed a complete physical examination including a serological test for syphilis, the second factor has also become involved. The maintenance of the health of the military personnel by application of preventive medicine has become a principle in which the Selective Service System can aid. In protecting the military personnel we naturally must be involved in the maintenance of the health of the civilian personnel. Particularly are we interested in those who are potential military personnel, the registrants of the Selective Service System.

In organizing the Medical Division of the Selective Service System in Mississippi, 107 local boards were established in our 82 counties with 107 examiners, 170 dentists and 353 physicians as additional examiners, plus 220 members of 15 medical advisory boards. When this was developed, we were not long in encountering the conditions which needed the application of preventive medicine. While the standards by which the registrants of the Selective Service System were measured physically were the same in both the Army and the local board medical division, there naturally was considerable personal variation in their interpretation. It is noted, however, that there was very little variation in such interpretation in regard to venereal disease. Positive serological tests for syphilis could hardly be interpreted in any other way, nor could a positive slide for gonorrhea be disagreed upon. With the large colored population, we naturally expected to find a considerable amount of preventable diseases over a period of time. We were not disappointed and among these diseases, by far the largest of any group, were the venereal diseases.

AGE GROUP

All registrants examined, both colored and white, were in the same age group covered by the first registration. From December 1940 to July 1941, we examined the registrants presented in the age group of 21 to 36, but beginning in July 1941, no registrants above the age of 28 (except volunteers) were examined. In December 1941, this group was placed back on the list to be examined. Some volunteers of the age group 18 to 21 were also included. But no registrants above the age of 36 or below 18 are included in this study.

RACE

The examinations were conducted on 38,362 colored and 35,191 white registrants of Mississippi, and it is from this group that we are presenting to you what was found in our examinations.

THE REVELATION

It is revealed that 73,553 colored and white registrants examined from December 1940 to April 1942 showed 11,847 positive tests for syphilis and 61,706 negative tests, or 16.2% positive and 83.8% negative respectively. Of this number 38,362 were colored who had 27,565 negative tests or 71.9%, with 10,797 positive tests or 28.1%. The white race showed a total of 35,191 examinations with 34,141 or 97.1% negative, and 1,050 or 2.9% positive tests for syphilis. Of the 107 local boards in the 82 counties of Mississippi, we note that the largest number of white registrants with positive serology for syphilis was in Hinds County Local Board No. 2, with a total of 39, and that the smallest number was in Holmes County Local Board No. 1, with one. The largest number of colored registrants with syphilis in any one local board was in Hinds County Local Board No. 3, with 312 as a total, while the smallest number was in Tishomingo with a total of two. As these Selective Service examinations began to total up to a considerable number, we began to realize more than ever before that we have quite a few cases of syphilis in Mississippi, and that the majority of cases are in the colored race in the ratio of 10 to 1 (10,797 colored and 1,050 white).

While this revelation was being made, we also found that gonorrhea is somewhat of a problem. From December 1940 to December 1941, the process of examination was that of a thorough examination in the local board by the local examiner, as well as a complete examination by the Army. During this period of examinations, which we have designated as Phase I, we found that we had discovered 689 cases of acute and chronic gonorrhea in the colored race and 88 cases in the white race. Of this number, approximately 500 cases were rejected for gonorrhea alone with no other cause for rejection in the local board, while 48 white and 421 colored cases were rejected by the Army for this defect alone. During the preinduction examination, when the local examiner was not allowed to reject registrants for this defect, a total of 17 white and 187 colored were rejected for gonorrhea by the Army examining team. This gives a total of 1450 (1297 colored and 153 white) rejected for gonorrhea, which was 1.8% of the total number examined.

The local examiners have rarely rejected a registrant with chancroid alone, but we note that we have a total of 30 cases, all colored, who have been refused entry into the armed forces.

Lymphopathia venereum is also relatively rare in the causes for rejection, with a total of 6 cases, all colored.

We can then agree that the commonest venereal disease discovered in our examinations has been syphilis, with gonorrhea second, chancroid third, and lymphopathia venereum fourth.

DIAGNOSIS

It might be wise to tell you upon what criteria we have based our opinions as to diagnosis.

SYPHILIS:

1. A serological test for syphilis has been made on every registrant as part of his physical examination.
2. No diagnosis of syphilis has been made on the basis of a single positive serological test in the absence of definite clinical manifestations of the disease.
3. Every registrant showing a positive or doubtful Kline flocculation or Eagle complement fixation test, or both, has had sufficient additional tests accomplished, accompanied by clinical history, to enable us to arrive at a final diagnosis.
4. Latent syphilis has been diagnosed by two positive serological tests for syphilis accomplished at different times but within three months of the first test.
5. Clinical syphilis has been diagnosed by the usual physical findings plus any laboratory data desired.

GONORRHEA:

A laboratory confirmation of the gram negative intracellular diplococci in the urethral discharge noted at the time of examination has been the criteria upon which this disease has been diagnosed. Certainly, some cases have slipped by the examiner to be picked up later because the specimen was secured immediately following micturition. These were almost invariably picked up at a subsequent examination in the very near future.

CHANCROID:

This disease has been diagnosed clinically with the aid of the microscopic examination as well as the exclusion of the lymphopathia venereum by skin tests.

LYMPHOPATHIA VENEREUM:

The Frei test given intradermally has been the criterion for the diagnosis of this disease.

THE PLAN ADOPTED FOR THE SOLUTION OF THE PROBLEM

Might we say that we are not of the opinion that the problem has been completely solved, but we would like to create the impression that some very advanced steps have been made in regard to the solution of this problem. The structure of the Medical Division of the Selective Service System is such that it has at its head the state medical officer, who is the chief of the Division, with offices in the state headquarters. Each local board has a medical division headed by the examining physician, with whatever assistance, medical and dental, as is required to carry on the work of the examinations. These are known as additional examiners (medical or dental). In addition hereto, are 15 medical advisory boards who are consultants available for reference of difficult cases.

After careful survey of the facts and discussion of this problem, it was decided by the Medical Division of the Selective Service and by the Mississippi State Board of Health that the problem could be met by creating a new department in the medical division of each local board. This was to be known as the laboratory section. Each county health officer was then appointed as additional examiner in charge of the laboratory section for each local board. His duties consisted of securing the blood for serological tests for syphilis, obtaining urethral smears, and such other laboratory tests as could be conducted under his supervision. This enabled the local board to have a more complete medical division within itself, as well as offered the examining physician some assistance in the examination of the registrants. However, the primary reason for reference of these individuals to the additional examiner in charge of the laboratory section, particularly when the first serological test was positive, was to enable them to be placed in contact with a representative of the Mississippi State Health Department. By delivering the registrant to the additional examiner in charge of the laboratory section, who is the county health officer, we are able to secure the second serological test for syphilis or the urethral smear or other tests for confirmation of the disease. This, being carried out on order of the local board, is a relatively easy method of placing the registrant into the hands of the Mississippi State Health Department, since it was a most difficult task when the responsibility was that of the Mississippi State Health Department alone. When the registrant then appeared at the clinic or office of the county health officer, the additional tests were completed and at the same time the Mississippi State Board of Health Form VD-363 was supplied to him, which, under the Laws of Mississippi, Code 1930, Section 4875, and Rules and Regulations Governing Communicable Diseases passed by the State Board of Health, makes it mandatory for him to comply with that notice to report for examination or treatment. Failure to comply with that notice subjects the registrant to prosecution and penalty as described in the Mississippi Code of 1930, Section 4897. This has rarely been invoked. All of these registrants who have been so ordered are willingly either being treated in the venereal disease clinics established in each county in the state, or being treated by private physicians who render reports at regular intervals to the county health officer. We are certain, therefore, that these registrants are being kept under continuous anti-syphilitic treatment. We are also certain that every effort has been made so that the family physician-patient relationship has not been disturbed, at the same time being able to contact and place under treatment these registrants with venereal diseases. It might be wise to state further that every case of primary syphilis, gonorrhea, chancroid, or lymphopathia venereum has been reported from this headquarters to the Health Department by telephone. Often men were met at home, after a trip to Camp Shelby where they were rejected by the public health authority and placed under treatment, very much to their surprise in some instances.

ADEQUATE TREATMENT

We will consider registrants for general military service who meet the following requirements:

"Individuals who have no clinical evidence of syphilis with confirmed serological tests, convincing histories of a trustworthy diagnosis of syphilis or with reliable histories of treatment for the disease on serological or clinical grounds, provided:

(1) "That a negative spinal fluid since infection *and* treatment has been reported from a trustworthy source;

(2) "That in infection estimated to be of less than four years' duration, at least 30 to 40 arsenical and 40 to 60 insoluble bismuth injections or their equivalent, with a minimum total of 75 injections, have been given with approximate continuity (no rest periods or lapses) during the first 30 weeks of treatment; and

(3) "That, except as further qualified below, in infections estimated to be over four years' duration, at least 20 arsenical injections and 40 to 60 insoluble bismuth injections or their equivalent, with a minimum total of 60 injections, have been given in alternating courses;

> rest periods between consecutive courses not exceeding eight weeks being allowable.

"In infections of unknown duration, it shall be presumed for classification purposes that these individuals under 26 years are of age of less than four years' duration, and over 26 years of more than four years' duration.

(Note: "For the determination of treatment, the signed statement of acceptable treatment sources administering it, with total number of doses of each drug and approximate calendar dates of administration and available laboratory and clinical data, shall be required as evidence.")

We are beginning to have some registrants who have had sufficient treatment and who are being certified to the Army by the responsible sources of treatment by a certificate.

Conclusion

In a brief way, an attempt has been made to present to you the problem as discovered in the Selective Service physical examinations conducted on its registrants. This problem, venereal diseases encountered, has been well handled through a coöperative plan which has been placed into effect by the most earnest coöperation on the part of the Selective Service System of Mississippi and the Mississippi State Board of Health and its departments. The agencies of these two departments have now established a method and a plan which will rehabilitate many men for the armed forces and at the same time the benefits derived by these registrants, the communities, and the state are untold. We are happy to have been a part of the development of this plan, and feel certain that much continued benefit will be derived by all concerned. The unique method of enlisting the county health officer as a part of the medical personnel of the local board so that we might order registrants to him for further examination, we claim as original. The laws of Mississippi are so written that the notice to appear for examination and/or treatment makes it mandatory on the part of the citizen to take treatment. This notice is served on the registrant at the time he is presented to the county health officer by the Selective Service System order. At this point the responsibility and obligation of the Selective Service System ends, and the health department, backed by the laws of this state, begins its action. There is no lost motion. The registrant begins treatment and is quickly rendered non-infectious. We believe that a great step has been taken forward in the eventual eradication of venereal diseases.

Para-aminobenzoic acid, commonly known as paba, will turn gray hair back to its original color, so says Dr. S. Ansbacher, research chemist of Richmond Hill, N. Y. It has proved successful in 75% of 700 cases. The only chance of obtaining paba in the pure synthetic form, however, is still through your doctor, not the chemist.

The Public Health Service In War

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I HAVE CHOSEN this subject because I do not wish to pass so excellent an opportunity of bringing into public view both public health in general and the U. S. Public Health Service in particular. It would be better manners, of course, if I also placed in the picture the Mississippi State Board of Health, but I feel that Dr. Underwood has informed you fully of the operations of that excellent and effective organization. So I should like to blow my own particular horn for a short space even though I may not play on it the most harmonious tune.

In coming before you I feel myself in a situation similar to that of the gentleman—I believe it was Major Bowes—who once expressed to Mark Twain his anxiety that an impending speech he had to make would not go over well. Mark Twain reassured him by telling him just to remember his audience didn't expect much. The retort of the Major is reported to have been that it was a great relief to learn that his audience didn't expect much, but he would feel much better if only assured that his audience didn't know much.

I feel that way about bringing before you the subject of public health. I am assured you don't expect much, but sincerely hope that you don't know so much that I cannot bring you anything new.

Possibly I have some reason to believe that a general medical gathering will not be accurately and extensively informed on public health. For one thing I realize it is a rather complex medical specialty. For another, in my wanderings over the face of the country sometimes I run into most unexpected interpretations of public health principles as well as into the most bizarre, even fantastic, ideas. None, however, exceeds the recent statement of the colored cook of one of our sanitary engineers who on being admonished for taking her child, sick with measles, to the clinic on a street car, declared her doctor had instructed her that if the child caught the illness in the house to keep him in the house, but if he had caught it in the outdoors, it was all right to take him through the streets. I feel strongly that the cause of public health can never be too often advanced; that none of us can ever know too much about it. So I feel no embarrassment in once more bringing it before you, even though I know that, particularly in this state, you already know a great deal about it.

Public health control and preventive medicine are specialties. While the first deals with the second they are very different. Preventive medicine is often individually applied and is part of the basic working knowledge of all doctors. Public health control utilizes preventive medicine, but to a primary degree public health control is concerned with mass treatment and with administration. Preventive medicine is entirely consistent with the doctors' viewpoint, while public health control requires a separate viewpoint which sets it somewhat apart from other medical specialties. The practicing physician treats individual cases to cure existing defects or disease; the public health specialist treats the population at large to prevent the occurrence of defects or disease. It is largely because of the two factors of apposition of viewpoint and necessity for administrative competence that public health authorities have been so insistent that responsible public health officers should be thoroughly trained before appointment. On the other hand, gentlemen, I wish to make this point: Public health control is not a separate profession; it is only a specialty of medicine, and the basic training of a doctor is just as essential for its successful practice as of any other medical specialty. We all know that none of us becomes competently specialized without intensive training along the particular line elected, and I believe that any of the specialties will require about the same amount of intensive training.

I feel some embarrassment in passing from specialists to the Public Health Service, for that service is made up of the darndest collection of jacks of all trades you can imagine. Take me, for example. I started out to be a surgeon, even operated on a couple of sailors. I might become a surgeon again for such a transformation is not as unlikely as it may seem. We sent a party to the Burma Road about a year ago to help the Chinese control malaria so that the road could be quickly built: those boys may now be military surgeons with the sanitary engineers of the party giving anesthetics. The five Public Health Service officers who were at or near Manila went into the medical division of General McArthur's Army. So I might be a surgeon yet.

After my brief surgical experience, I became successively a specialist in bubonic plague, water supply protection, public health control, laboratory research, maritime quarantine, cyanide fumigation, rat control, quarantine administration and district organization. This record is by no means unusual although of recent years it has become |possible to more closely limit the scope of specialization. A man may start out in the hospitals and wind up in public health, or vice versa, or he may begin in the research laboratory and transfer to the hospitals, or to the quarantine service. Many of our officers are doing various types of duty abroad.

Several factors account for this. One is the tremendous diversification of the service's interests and its far flung activities. Another is the relative smallness of the Corps. A third is a process of selection, an officer often passing through three or four types of activities before finding the spot he fits best. It has certain disadvantages, but at least one great advantage, which is that the service can meet at almost any time for almost any kind of medical duty. The process has in fact developed many real specialists, a number of whom have attained high position.

The Public Health Service began in 1798 as the Marine Hospital Service. While its existence has been continuous, its form has greatly changed; its present name is its third. Orginally it consisted of a number of hospitals at principal ports, operated by the government and financed largely from an assessment of fifty cents a month collected from seamen on American merchant vessels. From 1878 to 1885, it went through a period of reorganization, emerging as a mobile service with a corps of commissioned career officers, pretty much along the same lines as the officers corps of the Army and Navy.

With reorganization came the acquisition of public health duties, first the national quarantines, then interstate quarantine, epidemic suppression and swiftly a host of varied duties of a public nature. Research was added in 1900 and has grown to the National Institute of Health. The hospitals have greatly enlarged and increased in number. Today they treat a great variety of government patients, but fees have not been collected from seamen since about 1885. As a direct result of the 1918 influenza epidemic, a reserve corps was organized. In 1934 the allocation of money for health purposes under the Social Security Act and later under the Venereal Disease Act was placed in its hands.

In 1885 the commissioned corps numbered about 40 officers, today its exceeds 500. Even with that increase, the personnel has never kept pace with the duties assigned.

In 1915 the country was divided into interstate sanitary districts primarily to supervise water supplies on interstate carriers. Insistence on safe water on these carriers has been a potent influence in the great nationwide drive for water supply protection. In 1934 regional offices to assist in allocation of social security and venereal disease money were set up. In 1940, these offices were combined with the sanitary districts into Public Health Service District offices. These got off to a modest start, blossomed out with the advent of the preparedness effort, and have now become important and highly active divisions of the Service. Today it is largely through these district offices that the war efforts of the service are exerted.

It has been said of the Public Health Service that it is the most coöperative agency of the government. Probably this is an overstatement, but it is clearly a fact that this service functions very largely through coöperation. It furnishes medical offices to the Coast Guard, the Immigration Service, the Indian Service, the Federal prisons, the State Department, the Pan American Sanitary Bureau and other bureaus. Under law its officers may be detailed to any government agency, including the Army and Navy. It must coöperate actively with the Customs Service, the Bureau of Entomology, the Fish and Wild Life Service, the Diplomatic Service, the Veterans Bureau, the War and Navy Departments, and many others. With private and semi-public enterprise coöperation is extensive, particularly through the National Institute of Health which supervises preparation of biologicals, assists in research in chemistry, bio-chemistry, pharmacology, cancer and in many other ways. Its coöperation with the Rockefeller Foundation is quite close.

It is in its relations with state health departments, however, that the coöperative spirit reaches its greatest expression. I believe I am not exaggerating in stating that in many, probably in most states, the interrelationship is so close that it is difficult to tell just where the activities of the state health department stop and those of the Public Health Service begin. The reasons for this close relationship we need not examine, in the main probably it is based on mutual understanding. The truly important facts are that it exists and that its presence is a prime factor in enabling this country to marshal its public health forces and exert, during this terrible emergency, a single coördinated effort to control disease such as has never heretofore been seen.

In pushing the war effort all the public health agencies have combined their efforts under a singleness of purpose that I feel has neither been fully realized nor fully understood. Methods have differed here and there, emphasis of effort has varied and details of program have not always been uniform, but there has been no departure from basic public health principles and no major sacrifices to expediency. Public health workers have kept their eyes on the ball and have followed it consistently though the going has been tough in some places.

In promoting their mutual war program the Public Health Service has recruited, employed under emergency appropriations, and assigned to the states about 600 doctors, engineers, nurses, technicians and other specialists. These have been merged with state organizations and placed directly under their authority. The Service is in process of setting up under state supervision a large force engaged in control of malaria in war activity areas. It is working with the armed services, with operating corporations and with the states to organize industrial hygiene in the war industries. It has made available a group of expert rat control officers to assist in control of typhus fever, and has placed in each district specialists qualified to give expert advice on venereal disease control, sanitary engineering, milk supply improvement, public health nursing, and allied subjects. The district offices have made surveys for public health facilities requested under the Lanham Act and have supplied a large volume of public health data, much of it gathered with the assistance of the state health department, concerning war activity areas. Much of this data is being used in locating war activities.

Recently the Service was called upon to supply medical officers for the office of Civilian Defense, and in the various states doctors selected for full-time service as directors of emergency medical relief are placed on duty in the service reserve corps. Coördinated with this activity service officers are being designated to authorize hospitalization of civilian war casualties, and will have a hand in the selection of base hospitals to train additional nurses and to set up blood and plasma banks. An unexpected responsibility placed upon it is the medical treatment and health control of aliens evacuated from war areas, a duty of some magnitude in the West.

I could go on, and on. But I recall the eulogy of brevity pronounced by a famous comedian, who used to remark "enough is sufficient." Of course this brief resumé does not cover by quite a bit all the war activities of the Public Health Service or of public health officers in general. It presents only highlights of the pictures, for the details could not all be painted in a single evening, or day, or week. You will hear more and more of them, however, for this is our program, not just yours or mine. It is the people's program, though the leadership is in the doctors' hands.

The doctors of the country are being mobilized for war. Many are going into the armed forces. Many more will go. To some the Public Health Service will provide duty more exactly fitted to their qualifications and training. As more and more are taken the shortage will become acute and many problems will arise. These we need not greatly fear because, for the present, we all have but one aim—to win this war quickly and completely. Because we have but that one aim, coöperation and mutual understanding is complete. After the war, although a host of divergent interests may influence our thoughts and acts, it is our hope and belief that the great demonstration we are witnessing of the accomplishments of unified effort will be so impressive as to keep us bound together for the protection of our basic and fundamental principles.

The
Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Mid-South Postgraduate Medical Assembly
Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Old Bloss was a big old spotted cow the stock of whom came as a gift from the maternal side of the family. She was a heavy milker for those days, and in a family of ten. Reconstruction days still pinching, she was considered of great importance as a source of food supply. Without stock law the cattle were free to go and come when and where they pleased. Soil erosion was getting underway, and little Clear Creek was doing its part as well as old man river. Bloss failed to come up at milking time. Grass was beginning to put up and her absence might have been explained on this ground, but the next morning all the dry cattle were present or accounted for. The search was soon on for Old Bloss and there was sadness in the hearts of the family all day. It was not until early morning on the following day that she was found in a quicksand bog about a half mile from home. Good neighbors had joined the search and several were on the ground with long-handled shovels. Tow sacks were tied together and a temporary bridge was improvised to bring her out on firm land. Bloss had reserved her strength well.

The cow-hunting brigade dispersed for a short while for a little breakfast and a cup of coffee. Old Bloss was given some nubbins and her full udder was relieved, while the crowd spun yarns and rejoiced over the saving of one cow from the many.

Jim Hatcher, full of wit, wisdom and fun, solved the problem of getting Bloss home. His big red bandana was hanging from his hip, still moist with perspiration from his honest brow. He pulled it out and began popping Bloss's legs covered with the sucking sand. He noticed life coming to the eyes of the spirited bovine as she looked at the handkerchief and tried to shake her head. When he got down on his hands and knees just before her and waved the red flag on his two-hundred-pound caboose, determined resolutions surged within her, as strong as those impelling Patrick Henry in his famous speech on "give me liberty or give me death." By determined effort she began to gather strength and to make feeble lunges at the "flag." In a little while she was able to stand by the help of four men, and then by the aid of the men and the fighting inspiration of the flag that followed just ahead, she was steered home. There was joy in the hearts of the family because the children loved old Bloss, and the mother felt a sense of security on being assured of plenty of milk again. Mr. Hatcher had been the hero of the occasion. It reminded the father of the ingenuity of the Confederates on the battlefield. Old Bloss came in for generous approval for behaving so well under fire, for adjusting herself to the circumstances and saving reserved strength for two days.

Just a few days later there was another quicksand incident. A neighbor across the little bottom had a very pretty two-year-old colt. It was enjoying the spring grass and had utilized enough to make him feel so frisky he wandered far from home. At length he galloped down the lane into the sucking sand. The owner knew about Old Bloss's experience as did everyone in the neighborhood. The colt was soon missed, the hunt was on and in less than two hours the colt was found dead in the bog. It was no use to remove this body. It would serve for awhile at least to keep other cows and horses out of danger at this spot. There was sadness, of course, over the loss of this fine colt, sympathy for the owner and for the colt. No word was uttered by the "assembly," but it was plain to see that the colt had lunged and surged until one leg was broken and his nose was actually pulled under the water. The colt did not have the judgment of Old Bloss. There was no vote taken by the rescue squad. But suffice it to say, many people, when they get sick, need the inward stamina and the wisdom of Old Bloss.

Instead of taking the war as an excuse for not attending our medical society, let us take it as a pointed duty not to miss a meeting that we can possibly attend. The Northeast Mississippi Thirteen Counties should have a full attendance on Tuesday, September 8.

We appreciate the courtesy card of Dr. Harvey B. Searcy of Tuscaloosa, Alabama. He is a most able and affable member of the profession, and is president of the Alabama State Medical Association and Councilor-elect of the Southern Medical Association. He attended the last meeting of the Northeast Mississippi Thirteen Counties Society and we were delighted to have him.

The Southern Medical Association is to hold its annual session as usual. It meets in Richmond. We think it is right to hold this meeting. It is not a time to retract; it is time to go forward even if it does take more effort. We must keep to the front in medicine. We must make the effort in every way to give the people the best that is available in medicine.

The third quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society will meet at Amory on September 8. This should be an unusually good meeting. Dr. John Shelton Horsley of Richmond, Va., and Dr. Seale Harris, Sr., of Birmingham, Ala., are listed on the program. This makes it well worth attending. Amory entertains well. Dr. G. S. Bryan and Dr. A. J. Stacy are to be congratulated on securing two such outstanding men for this meeting. Dr. Bryan has been going after the big fish for our society for a long while and he has succeeded unusually well. Let us all be there.

The doctors of the state regret the untimely death of Q. Edward Gatlin of Jackson, director of the WPA for the state. He was with the State Board of Health for a number of years and made many friends with members of the profession.

We deeply regret the passing of Dr. Robert M. Anderson of Tulsa, Okla., Councilor for the Southern Medical Association. In deed and truth he possessed the professional mind, the medical soul and the missionary heart. He loved the practice of medicine. He was a man of reason and fine judgment and his abundant knowledge was seasoned with wisdom. He was a friendly man who was very kind and most sincere. Southern medicine will miss his counsel and feel deeply the loss of his inspirational personality.

Every person should tighten up the traces and do his part in the all important task of winning the war. In this task there is no group upon whom the burden falls heavier than it does upon the medical profession. The men at the front must have preference in medical service, but at the same time the home bases must not be neglected. It is the united effort all along the line that will win the war and maintain the peace afterwards. The rural communities, especially in the South, have already been sadly neglected in the matter of medical service. These very areas, the small town and the rural community, are furnishing the leadership that is the hope of the world today. It will be the hope of the peace also. The older men in general practice in Mississippi have the greatest opportunity they have ever had to serve at this time. No part of medical service at this time is common or of small importance. Some of the greatest heroes of medicine will be found in civil practice where they are exerting every ounce of mental and physical energy to do their full duty to the people. It is not time for a doctor to retreat to any job and just do what he most enjoys. Total health assets must be increased, the rank and file who have always been the hope of every nation must be served. A medical brotherhood must be established in which all doctors do their part for the common good and in which every doctor is given due credit. Service is the measure of greatness wherever it is. The effort the person puts forth against the odds is the measuring rod. Glory and honor to every doctor who does his full duty at this time.

I love peace and hate war, but war is to be preferred to ignoble peace. In fact there can be no peace without honor. We are admonished in Holy Writ to live peaceably with all men if possible. This implies clearly that it may not always be possible. So we are at war, the whole world is involved, and this is one of the instances in which peace is impossible. No one can foresee or foretell world conditions after the war ends. Of one thing we may be sure, the world will never be the same as now. Truly, a new order is in the making. What this new order shall be depends upon what we as a nation shall do, more than upon any other equasion. I am persuaded that it depends upon us whose the victory shall be. There is no easy way or short cut open. And, in my thinking, any one who plans to make money out of the situation or who is inclined to shirk work or danger is a traitor to his country. The individuals who were on trial for secretly entering the United States for the purpose of sabotage were entitled to no mercy at our hands. But they, at least, are not traitors to their own country. They have risked all to be of service to it. When compared to those who are unwilling to render their best service to our own government, honors are due them. Why should wife or parent complain if their loved one should be ordered into the service? Why should mothers not feel as did the Roman mother who offered her twelve sons to her government? Why should young and able-bodied doctors hold back and try to fool the public while older men are volunteering and being accepted? What if they are needed at home? Our soldier boys are needed at home too, but it is our first duty to care for them while in service. I was made to feel proud when our procurement board wrote me that a doctor cousin of mine who is fifty-eight years old had volunteered his service and had been accepted. This man no doubt is needed in his community and I am sure he is giving up a lucrative practice. I am proud of the fact that all the doctors in my county who are within the draft age have volunteered. Had any one failed he would have deserved and received the contempt of his associates and the public as well. Only six white doctors and one negro doctor are left to do the work for forty thousand people. And all of these men who are left are aging men. But they will brace themselves for harder work than they have ever done. Some may, and probably will, fall in harness. So will many of our boys who have gone to the front. Some of our civilians may not get all the medical care they need or want. What of it? There are many things they may not be able to get that they think they need. This is our war, everybody's war. It will cost us much, oh so much, to win it. But should we lose it we shall lose ALL.

* * *

On the eighth of September the Northeast Mississippi Thirteen Counties Medical Society will hold in Amory its third quarterly meeting for the current year. We shall be fortunate and highly honored in that two of the nation's outstanding men of medicine and of letters will be with us. These are Doctors J. Shelton Horsley of Richmond and Seale Harris, Sr., of Birmingham. Since many of our younger men will be in service we trust that all of the older men who can will be with us at that time. Ours is one of the best societies in the country. Let us not lag in interest because of war or weather. We shall need this society worse than ever before. And let us not forget that it is our duty to keep it functioning until our boys come back again. We owe it to ourselves, to the public and to our boys. Surely no one will fail or falter. Amory expects you. A cordial welcome awaits you.

G. S. B.

News and Comments

Captain R. J. Jones, formerly a practicing physician at Greenwood, has been called into military service and is now located with the U. S. Army Medical Corps, Headland, Ala.

Physicians Reference Book of Emergency Medical Service, recently published by E. R. Squibb and Sons of New York, should certainly be on the desk of every doctor. It furnishes a reference for the latest and best on emergency treatment for the conditions we would be most likely to encounter should the war be brought to our own borders. It is composed of 262 pages of solid reading matter properly indexed.

Dr. George R. Osborn, Tulsa, has been appointed a member of the Council of the Southern Medical Association from Oklahoma to succeed the late Dr. Robert M. Anderson, Shawnee.

Dr. Osborn was born in 1875, was graduated from the University of Illinois College of Medicine in 1906, and limits his practice to obstetrics and gynecology. He is a past president of the Oklahoma State Medical Association. He has his office at Suite 901 Medical Arts Building, Tulsa.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

September 8, 1942

Dr. Stanley A. Hill, Corinth, presiding

Program

"Cardiac Conditions Frequently Met in General Practice"—Dr. B. C. Tubb, Smithville.

Discussed by Drs. J. M. Hood and J. R. Hill.

"Simultaneous Extrauterine and Intrauterine Pregnancy"—Drs. Burns and Rayburn, Pontotoc.

Discussed by Drs. W. H. Eason and R. B. Cunningham.

"Some Aspects of Cancer of the Stomach"—Dr. J. Shelton Horsley, Richmond, Virginia.

"Some Essentials in Lowering the Death Rate in Appendicitis"—Dr. W. H. Anderson, Booneville.

Discussed by Drs. V. B. Philpot and J. T. Doster, Jr.

CONFERENCE ON VENEREAL DISEASE CONTROL NEEDS IN WARTIME

Venereal disease and America's war effort will be discussed by high-ranking medical officers of the War and the Navy Departments, prominent physicians, health officers and others at a Conference in Hot Springs National Park, Arkansas, October 21-24, 1942. Headquarters will be at the Arlington Hotel.

The Conference will be held under the auspices of the United States Public Health Service in conjunction with the Eighth Annual Meeting of the American Neisserian Medical Society. Surgeon General Thomas Parran will preside. State and local health officers, venereal disease control officers, practicing physicians, and all others engaged in venereal disease control activities are urged to attend.

SURGEONS' CONGRESS SCHEDULED FOR CLEVELAND, NOVEMBER 17 TO 20

The 1942 Clinical Congress of the American College of Surgeons, originally scheduled for October at the Stevens Hotel, Chicago, which was taken over August 1 by the United States Army Air Corps, will be held in Cleveland, with headquarters at the Cleveland Public Auditorium, from November 17 to 20, according to an announcement from the College headquarters in Chicago. The twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously.

DR. HARTER HONORED BY CHEST PHYSICIANS

Dr. John S. Harter, Sanatorium, was elected as a governor of the American College of Chest Physicians at the annual meeting of the College held at Atlantic City, June 6 to 8, 1942. This honor, coming to one who is outstanding in Mississippi in his field, receives the hearty approval of fellow physicians over the state.

SOUTHERN MEDICAL ASSOCIATION

Since the press release by the Defense Transportation Director in Washington in June, on the cancellation of all "non-essential" conventions, many inquiries have come into the Association's office upon the status of the Richmond plans for November.

The Association believes that the annual meeting of the Southern Medical Association is in no sense a non-essential convention. It should be of definite service to the government and the people during the war. The comparable annual meeting twenty-five years ago was of service to the government in World War I. There are many physicians in the South who will have to broaden their civilian practice next year, will have to do medical work that they have not done in years. In Richmond they will be furnished an opportunity to freshen up in expanded fields, and this will mean better service to the civilian population. Physicians in military service in this part of the country also will be able to discuss medical problems of the armed forces, which demand continuous study. The civilian population must replenish the military branches in any prolonged war, and must be kept in readiness for its duties.

The Association, through the member of its council in the District of Columbia, Dr. Oscar B. Hunter, has been in contact with the surgeons general of the Army, Navy and Public Health Service in Washington, that is, Dr. James C. Magee, Dr. Ross T. McIntire and Dr. Thomas Parran. All three indicate that they believe that the Southern Medical Association meeting can make a very significant contribution to the war effort. Richmond has been described as a strategic location for this gathering. Just as the American Medical meeting in Atlantic City in June was helpful to military organization and current necessary medical progress, so the Southern Medical in Richmond in the fall will contribute to the national need. It is important that medicine not be frozen for the duration of the war. It is believed that the Richmond gathering has the endorsement of official medical Washington, and that no objection will be raised to it from any other quarter.

Section officers and all who are charged with program responsibilities are going ahead in the building of their programs. The activities this year will occupy three days instead of four, and will be confined to Tuesday, Wednesday, and Thursday, November 10, 11, and 12. Hotel reservations already made indicate that the attendance will be good. Hotel reservations should be made through the Hotel Committee, Southern Medical Association, 109 North Fifth Street, Richmond, Virginia.

DR. JAMES HENRY MILTON PEARCE OF FALKNER, MISS., AND SONS

Left inset: Dr. Robert S. Pearce, Memphis. Upper right inset: Dr. J. F. Pearce, Waurika, Okla. Lower right inset: Dr. M. B. Pearce, New Albany. Lower right: Dr. J. C. Pearce, Jackson, Tenn.

Dr. Pearce was born in Philip County, Ark. Jan. 25, 1872. He graduated from the Hospital Medical College in Memphis in 1904. He was married to Miss Minnie Moore of Falkner in 1893. He began the practice of medicine with his father, Dr. L. S. Pearce, after passing the state board 51 years ago on last April 22. Eight children have been born to Dr. and Mrs. Pearce, seven now living, three daughters and four sons: Robert S. Pearce, M.D., 1301-5 Exchange Bldg., Memphis, Tenn.; John C. Pearce, M.D., 405 Wisdom St., Jackson, Tenn.; M. B. Pearce, D.D.S., New Albany; James F. Pearce, D.D.S., Waurika, Okla. You will note that two of the sons are medical doctors and two dentists. The daughters are Mrs. Sarah Waller, New York, Mrs. W. B. Ward, graduate nurse of Vanderbilt, Miss Dessie Lou at home. Miss Vera was a successful teacher for many years.

During his practice Dr. Pearce has delivered 1984 babies but he quit doing obstetrical work six years ago. This was an average of about forty-two babies a year for forty-five years.

The Dr. Jim Pearce family are certainly doing and have done their part in the field of medicine, four doctor sons and one daughter nurse. This is a family of students far above the average in intellect. Dr. Jim has reached his three score and ten, but mentally and physically he is very active and alert. He loves medicine and he loves people. He is an interesting philosopher with plenty of wit and wisdom.

Deaths

Dr. James Covington Gathings, who was born in Prairie, Miss., died on June 14 at La Feria, Texas. Funeral services and interment were in Aberdeen, Miss. Dr. Gathings, 79 years old, was the eldest son of Sampson and Susan Williamson Gathings, who were pioneer citizens of Monroe County. He received his early education under Swaney Webb at Bellbuckle, Tenn., and later attended Vanderbilt University. He received his medical degree from the old Memphis Medical College in 1887. After practicing in Monroe County for 25 years, Governor Noel appointed him superintendent of the state penitentiary in 1910 where he served four years. In 1925 he moved to La Feria, where he continued his practice. Surviving are his wife, Mrs. Lavinia Prewett Gathings and eight children: Mrs. J. D. Smith, Osceola, Ark.; Mrs. S. L. Pake, Altheimer, Ark.; Mrs. C. E. Bolen, Parchman, Miss.; Mrs. E. C. Whittington, McAllen, Texas; Mrs. M. W. Emmel, Gainesville, Fla.; Mrs. J. L. McNail, La Feria; Mrs. H. H. Garnett, Luxora, Ark.; and J. R. Gathings, Luxora, Ark.

Dr. Edwin Ward Mackey, about 73, a native of New York, died on July 11 at Tampa, Fla. He received his medical degree from the Birmingham Medical College in 1909. Two years before that he had been licensed in Mississippi. For more than 20 years until 1931, he was a physician in Purvis, Miss. Later he moved to Hattiesburg where he had an office in the Ross Building and specialized in eye, ear, nose and throat diseases. After leaving Hattiesburg he moved to Tampa. He is survived by his wife.

Dr. Robert M. Anderson, past 70, died suddenly July 16 en route to his home in Tulsa, Oklahoma. He attended a meeting of the State Procurement and Assignment Committee at Oklahoma City Wednesday afternoon and as indicated by friends there and a letter "was in fine fettle." After the meeting he went to Marlow, Oklahoma, to spend the evening with his daughter and was found dead in bed there the next morning. It is presumed the cause of death was coronary thrombosis since Dr. Anderson recently had had some trouble with his heart.

Dr. Anderson was a member from Oklahoma of the Council of the Southern Medical Association and has served more than three years of a five-year term. He was a past-chairman of the Section on Obstetrics, presiding over that section at the Louisville meeting in 1940. Few members of the Southern Medical Association have as fine a record of attendance as Dr. Anderson. Since he joined in 1922 he has attended seventeen meetings—seventeen out of a possible twenty.

Dr. and Mrs. Anderson live at 14 East Ninth Street, Shawnee, Oklahoma.

Book Reviews

DIRECTORY OF MEDICAL SPECIALISTS

Certified by American Boards

1942

This Directory of Medical Specialists is well known as the official publication of the fifteen American Boards certifying in the medical specialties. It is issued under the authority of the Advisory Board for Medical Specialties, published by the Columbia University Press and is now appearing in its second edition. Since the first edition, 1939, 4,000 more specialtists have been certified and 3 new certifying boards established, which are included. New biographic information has been added, with full details of special training leading to certification, and generous information about the graduate educational background of 18,000 specialists listed.

The first section outlines the purposes of the Advisory Board, with a separate section devoted to each American Board. Then follow both a geographic and a biographic listing of its Diplomats. A complete alphabetic list, including addresses, as nearly accurate and up-to-date as possible, makes the book easy to use.

Since this book is also an index to a trend in medical development, it is of tremendous value to a nation at war. The new feature of government appointments, both active and reserve commissions in Army, Navy and Public Health Services, will make it increasingly useful to army and navy administrators, as well as to local and regional service executives.

The Directory will be of practical use to hospitals, social agencies, libraries, medical societies, business organizations, etc., as well as to family physicians who can form an accurate judgment of qualifications and ability of specialists in any branch of medicine for the benefit of patients.

Paul Titus, M.D., is Directing Editor and J. Stewart Rodman, M.D., is Associate Editor. The edition has 2,495 pages and is priced $7.00.

Clinics is a new bi-monthly publication by J. B. Lippincott Co., Philadelphia, Pa., with George Morris Piersol, M.D., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, as editor. It is a successor to The New International Clinics.

For each issue, the publishers plan a symposium, covering such topics as: nutrition, hemorrhage, transfusion and blood substitutes, endocrinology; industrial hygiene; pediatrics; social psychiatry; neurosurgery; arthritis and rheumatism and obstetrics and gynecology. Leading men all over the country will prepare the papers and collaborate with the publication. A large section will be reserved of original contributions, which, it is expected, will cover may phases of military medicine which will interest every general practitioner. The keynote will be: timeliness, current reporting, practical and useful articles. Price, per year, $12.00 by subscription; single copy, $2.00; cloth-bound, $16.00 by subscription; single copy, $3.00.

Two second editions are out in the C. V. Mosby Company synoptical series that physicians are finding handier than any other quick reference. *Synopsis of Materia Medica Toxicology and Pharmacology*, by Forrest Ramon Davison, B.A., M.Sc., Ph.D., M.B., now with the medical department at the Upjohn Company, Kalamazoo, Mich., and *Synopsis of Anorectal Diseases*, by Louis J. Hirschman, M.D., F.A.C.S., one of the most prominent men in the profession in organized medicine, now Professor of Proctology at Wayne University, Detroit, are about all the general practitioner could ask for concise coverage on these subjects.

The *Materia Medica* not only puts at the doctor's fingertips the study of drugs with their application in the same volume, but it confines guidance to the most commonly used drugs that have established effectiveness. It will be of interest to know that the sulfonamides are carefully covered. A chapter on prescription writing, a chapter on each separate group of drugs, metals and metalloids, biologicals and miscellaneous drugs, make the book highly useful for classroom, laboratory and clinic. Price $4.00.

Anorectal diseases, that field more neglected than any other by the man in general practice and the young man choosing a specialty, is expertly presented to bring before the practitioner or student the diagnosis and treatment of the commoner diseases of the anus and rectum. The author states, "The technic of diagnosis and of therapeutic measures herein presented requires no elaborate array of costly instruments. These procedures are now presented in this synopsis to guide those who desire to treat that large proportion of anorectal diseases which can be treated safely and successfully outside of the field of the limited specialist."

Dr. Hirschman's methods are those of an instructor, taking up first the anatomy, symptoms, examination, anaesthesias, and each diagnosis from fecal impaction through growths and infections. Nearly two-thirds of the book carry detailed illustrations or color plates to make clearer the procedure discussed. Price $5.50.

Taber's Cyclopedic Medical Dictionary, second edition, is a dictionary and condensed encyclopedia combined. For instance, look up "bronchitis." Following the usual definition are etiology, symptoms, prognosis and treatment of acute, capillary, chronic and fibrinous bronchitis, with separate definitions of fetid, putrid and rheumatic bronchitis. Not planned as a textbook, this small dictionary gives more than mere definitions when questions arise for answer in the daily practice. Again, under "crisis" the word is more fully explained by a small chart showing on one side the termination of fever by crisis and on the other half, the termination by lysis. Illustrations wherever needed throughout the book clarify descriptions. This desk-size compact and reasonable dictionary will pay for itself many times.

Taber's Cyclopedic Dictionary is published by F. A. Davis Company, Philadelphia, Pa. Price, $3.00.

A perennially timely book is available in the tenth edition—*First Aid in Emergencies*, by Eliason, M.D., Professor of Surgery, University of Pennsylvania School of Medicine, published by J. B. Lippincott Company. price $1.75.

Not a technical medical treatise, the book is designed for firemen, police, lifeguards, sailors, Boy Scouts. Campfire Girls, Girl Scouts, factory workers, campers, automobilists, civilian emergency corps, and others. The book may be recommended particularly to groups preparing themselves for service in military camp or industrial areas, as well as civilian groups everywhere desiring to prepare themselves to act in an emergency.

A comprehensive index furnishes a complete catalog of the book, so that ready reference is expedited. The book is offered to help meet ordinary emergencies that arise in everyday life, and the physician can help prevent much unwise handling of emergency patients by approving this little book for the general public.

Mississippi State Medical Association

Organized 1867 **Next Meeting: May 11, 12, 13, 1943**

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Exhibits:
Dr. D. W. Jones, Jackson
Dr. Leon S. Lippincott, Vicksburg
James Grant Thompson, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet	Third Tuesday 7:30 p.m.
Alcorn	D. W. Hamrick, Corinth	R. H. DeJarnette, Corinth	Third Friday, 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central Medical	R. B. Austin, Forest	James G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Marks	Guy R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	F. M. Acree, Greenville	Sec. Wed. April & Oct., 2 p.m.
DeSoto	C. W. Emerson, Hernando	L. L. Minor, Memphis, Rt. 4	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-War.	Hugh Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	C. R. Senter, Byhalia	H. Phillips, Holly Springs	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	Stanley A. Hill, Corinth	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	J. M. Smith, Magnolia.	V. S. Holmes, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr.,Hattiesburg	3rd Tues., Mch., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., Mch., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Fields, Centerville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

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Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

PROPHYLACTIC USE OF HUMAN SERUM AGAINST CONTAGION IN A PEDIATRIC WARD—Louis H. Barenberg, M.D., Walter Levy, M.D., Nathan M. Greenstein, M.D., Bernard Greenberg, M.D., New York—American Journal of Diseases of Children, 1101:1109 (June, 1942).

The above article in the June issue of the American Journal of Diseases of Children is a very forceful argument in favor of the use of pooled serum or plasma as a prophylactic measure to children admitted to pediatric wards in hospitals particularly, as well as the suggested use of the same remedy against measles and other contagious diseases among soldiers. Many of us have used convalescent serum in the prevention, modification, and attenuation of measles for a good number of years, and its value is in no sense doubted. There is some objection to the large amount (30 cc.) which the authors recommended to be injected into every person under three months of age as a routine procedure on admission to the hospital ward. In my own experience the administration of 10 cc. of the convalescent serum is all that is necessary. In fact, I believe a less amount would be sufficient, although the authors insist on 30 cc. of the pooled serum or plasma in every case over three months of age.

It is interesting to note that the authors suggest that the age of the serum has little effect on its potency. In fact, it is stated that the antibodies for measles, scarlet fever, and diphtheria in pooled plasma were only slightly diminished after one year of storage. The authors insist that because of its availability and its extreme low cost that they consider pooled plasma or serum to be the ideal prophylactic agent in hospital practice. They suggest that immune globulin in their experience has given a false sense of security and fairly severe local reactions. I may say that this has not been my experience. Immune globulin given ever since it was produced has worked well in my hands if the time of administration is given early enough within the incubation period. Human serum and plasma are now being stored in large quantities for use in military emergencies, and it could be employed in the home or in private practice in remote districts as well as in hospital practice. Since there are many indications for its use, the practice of giving it should be considered of value.

In conclusion and summary, the authors make the following statements, which in a sense gives well the summary of this article: "The results of our method revealed that since 1934, including the 1940-1941 epidemic of measles, no secondary case of contagious disease occurred among the patients who received pooled serum or plasma.

Since secondary cases of contagious disease develop in pediatric wards, especially during epidemic, it is clear that prophylactic therapy by means of injection of 30 cc. of pooled serum or plasma should be administered to every patient over 3 months of age as a routine procedure on admission.

In order to duplicate our experience, it is necessary to pay scrupulous attention to the details of the method here described.

A long range view must be taken, so that inoculations are given routinely even though an epidemic is not in progress. Once contagion is widespread, it is practically impossible to influence the incidence of secondary cases.

A marked reduction in the number of primary cases was noted with the utilization of this method. This is presumptive evidence that pooled serum or plasma will abort measles if administered early in the incubation period.

Presumptive evidence is presented that pooled plasma is valuable as a prophylactic agent against rubella.

A constant supply of plasma is made available by utilization of hospital bank blood plasma.

On this basis, we advocate the adoption of this procedure by all hospitals.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH ACTIVITIES INCREASE DURING WAR TIME.

VITAL STATISTICS

"The Vital Statistics Department during the past six months has been subjected to the greatest strain it has experienced since its organization nearly thirty years ago," Dr. R. N. Whitfield, director, reported to the State Board of Health at its semi-annual meeting, June 26.

The general requirement that a birth certificate must accompany every application for a government position or a defense industry job, resulted in the department's receiving from five to six thousand requests a month for certified copies of both certificates. In addition, an equal number of requests were received for certificates, with no mention being made of "Certified" copies. All in all, the department has had to handle from ten to twelve thousand requests a month.

A large percentage of the applicants was born on or after November 1, 1912, when the Division of Vital Statistics was organized. Since most of their births are recorded, the only difficulty is to find their certificates and make the proper certified records and deliver them to the applicants. Those not registered, or born prior to the establishment of the division, are required to present certain documentary evidence, standardized by our own regulations and the agreements made with the different divisions of the federal government.

The enormous additional burden of searching for birth certificates made it necessary to stop many activities and do almost nothing else but meet this pressing problem. For this reason, the vital statistics report for the year 1941 had not been completed. In spite of the handicaps, however, some statistics have been compiled, the following of which may be of interest:

Provisional statistics on birth registration for the past year indicate that two thousand more births were registered than during the previous year. Provisional data on marriages indicate that there were approximately 8,500 more marriages in 1941 than in 1940: Divorces increased 580 during the past year over the year before. Most of this increase in divorces occurred among the Negro population. The white divorces increased only about 150 in number. The deaths for 1941 totaled 22,570—approximately 600 less than in 1940.

There was a slight increase in the number of typhoid fever deaths. Last year there were 36. In 1940 the total was 31. The white deaths for typhoid fever decreased, while the Negro deaths increased proportionately. Practically all of the contagious and infectious disease deaths decreased during 1941 with the exception of influenza. This disease was especially prevalent during the early part of the past year. There was a marked increase in the number of deaths from automobiles in 1941 over the year 1940. Automobile deaths for 1940 numbered 462; in 1941 they totaled 609. Deaths from cancer and heart diseases did not show the usual marked increase in 1941 over the previous year. There was an increase of only 16 deaths from cancer over the previous year; and only 24 more deaths from heart diseases than during the year 1940. The total number of deaths from heart diseases last year was 3,538—about one in every six deaths that occurred in the state. However, this is much better than the national record which shows about one out of every four deaths ascribed to heart disease.

SANITARY ENGINEERING

On January 1, 1942, there were nine army, navy, or war industry areas in Mississippi. Since this time there have been eight additional projects started. These include a two triangular division camp at Centreville, a two triangular camp at Grenada, a shell-loading plant at Aberdeen, a navy munitions depot and an air corps mechanics school at Gulfport, an air support command base at Laurel, an air base at Greenwood, and a primary air force training base at Clarksdale. Problems arising at these new developments, together with many activities that have confronted the division in areas formerly established, have of necessity placed many responsibilities on this division, states Mr. H. A. Kroeze, director.

Considerable time has been spent in conferring with the engineers designing these projects with reference to the matter of water supply and sewage disposal. This work has entailed personal inspection of the sites, decision as to the type and degree of purification needed in the case of both water supply and sewage disposal, numerous conferences with the designing engineers, and review of the plans and specifications of the sanitary works which must be approved by this division.

In addition to this activity, the division has coöperated with the United States Public Health Service in making further bacteriological studies of the waters overlying oyster beds in the Back Bay area of Biloxi, the Pascagoula area at the southwest of the mouth of the Pascagoula River, and the bathing areas confronting Pascagoula. This work was necessitated because of the increasing population in both the Biloxi and Pascagoula areas in the absence of sewage disposal systems at this time. Large oyster areas are involved, and it is necessary to maintain close watch on the degree of pollution of the waters overlying these areas.

As time has permitted, one engineer of the division has assisted the Division of Industrial Hygiene and Factory Inspection in making routine inspections of factories in the state, and also some additional hygiene surveys were completed during the period.

The increasing war areas have continued to aggravate the milk supply problem, and the division has had to spend considerable time in promoting increased Grade A milk production for pasteurization purposes and promoting new pasteurization plants and extensive remodeling and enlarging of existing plants. This work has entailed numerous visits and conferences with the various health departments involved and individuals interested in milk production. Furthermore, due to the constant depleting of the ranks of sanitarians who have been inducted into the service or who are leaving public health work for other employment, there have been numerous changes in county sanitarians and considerable time has been spent in instructing these men in adequate milk control procedures. During this period three new pasteurization plants have been constructed, ten plants have been remodeled and enlarged, and conferences have been held relative to plans for proposed construction of ten additional plants.

The W.P.A. Community Sanitation Program has been continued. An average of approximately 700 workers have been employed during the past five months. All of the war areas in Mississippi have been certified by the military and United States Public Health Service authorities as areas of importance to the war effort in so far as the Community Sanitation Program is concerned. Most of the activities of this nature are now carried on in these war areas since most of the W.P.A. labor is now confined to activities relating to the war effort. During the period, 8,666 sanitary pit toilets have been constructed.

In an effort to promote the proper utilization of funds available through the Farm Security Administration for the purpose of providing environmental sanitation facilities at the homes of Farm Securty Administration clients, the division sponsored four district meetings in the state jointly with the federal agency to familiarize their representatives and representatives of the State Board of Health with the proper methods of installation of rural water supplies, screening houses, and constructing privies. One of the chief purposes of these demonstrations was to train Farm Security Administration representatives to assist in this work, particularly in areas where full-time health services are not available.

Routine activities under the W.P.A. Malaria Control Drainage program have been continued and during the period an average of 900 men have been employed on this program. Projects have been approved as of importance to the war effort in practically all of the war areas and work of this nature is now being carried on in the majority of these areas. During this period work has been performed on 64 projects in 44 counties in the state, and approximately three miles of concrete, brick, or masonry inverts were constructed.

Funds were made available to the United States Public Health Service for conducting malaria mosquito control work in areas contiguous to army, navy, and war industry establishments, and there has been set up through this division a program of carrying on this activity in these areas. This work involves both larvicide control and drainage and is supported entirely from funds furnished by the United States Public Health Service. This work has already been organized in the following war areas: Biloxi, Pascagoula, Gulfport, Jackson, Madison, Meridian, Hattiesburg, Greenville, and Columbus, and will be set up in other areas as soon as troops or industrial workers are assigned. Funds are available to the army and navy and the war industries for carrying on similar activities on the reservation proper and the work supervised by this division is carried on in an area one mile wide surrounding these areas. In addition to this, in those cities where large numbers of troops congregate and the malaria incidence is high, activities are carried on throughout the entire city.

The division has been considerably handicapped due to lack of sufficient personnel to carry on all of the additional responsibilities that have arisen as a result of the widespread war activities in the state. Some persons have been lost and personnel assistance which was expected from the United States Public Health Service has not materialized. Consequently, the division has had to spread its services rather thinly, and many routine activities have not received the attention as formerly. It is felt that additional personnel will have to be secured so that areas in which no war effort is carried on will receive proper assistance from the division.

HEALTH EDUCATION

The importance of health education to the attainment of maximum physical fitness and efficiency is widely recognized. The broader application of the principles of health and protection against disease doubtless would have greatly lessened the number of rejections reported by the Selective Service boards, to say nothing of its beneficial influence upon the population as a whole. While it is not always possible to alter the fixed habits of adults, it is readily noted that much can be done for children during their early impressionable years, which will help them put into practice the helpful knowledge which leads to stronger minds and bodies and efficient community leadership.

Realizing this, the State Board of Health in conjunction with the State Department of Education, has planned for a joint program of health education which will center more attention on school health education, community organization for health education, and provision of more tools for public health education. Under the medical direction of Dr. D. V. Galloway, this program will integrate all health education activities in the state. Mr. D. R. Patterson of the State Department of Education will serve as health coördinator and director of teacher training. Miss Mary Stansel will serve as nutritionist. The program is being made possible through the coöperation of the General Education Board and International Health Division of the Rockefeller Foundation.

It is planned that this group will work intensively in individual counties for a time varying from several weeks to several months in order thoroughly to integrate the work of schools and county health departments. Meetings will be held with teachers who will be instructed individually and in groups in such matters as health of the school child, inspections, arranging the school environment. Stock will be taken of health services rendered in schools by county health departments with special attention to obtaining correction of defects. Attention will be given to more adequate preparation of teachers for the teaching of health in various institutions engaged in training teachers throughout the state.

County health officers who have gone into service*.

Dr. R. J. Jones, Director
Leflore County Health Department
Greenwood, Mississippi

Dr. Joe H. Price, Director
Tishomingo County Health Department
Iuka, Mississippi.

Dr. A. L. Adam, Director
Adams County Health Department
Natchez, Mississippi

Dr. J. C. McGuire, Director
Copiah County Health Department
Hazlehurst, Mississippi

Resigned to enter private practice:

Dr. R. F. Mayer, Director
Claiborne County Health Department
Port Gibson, Mississippi

*In addition to these medical officers, several engineers and sanitation supervisors have joined the armed forces during the past thirty days.

CHANGES IN THE LIST OF MISSISSIPPI PHYSICIANS

August 8, 1942

Change:

Dr. E. R. Shurley from Franklin County to Money, Leflore County.

Dr. J. H. Leigh from Neshoba County to Laurel, Jones County, Superintendent of the South Mississippi Charity Hospital.

Add:

Dr. R.G. Lander, from Texas, to Pascagoula, Jackson County.

Dr. M. H. Robertson to Alcorn County, Corinth.

Remove—Gone to Military Service:

Dr. W. P. Warfield from Clarksdale, Coahoma County.

Dr. Julius L. Levy from Clarksdale, Coahoma County.

Dr. O. H. Beck from Greenville, Washington County.

Dr. Nathan Lewis from Vicksburg, Warren County.

Dr. E. A. Thorne from Holly Springs, Marshall County.

Dr. R. J. Peterson from Schlater, Leflore County.

Dr. Paul Jackson from Liberty, Amite County.

Dr. N. S. Dickson from Aberdeen, Monroe County.

Dr. L. W. Willey from Whitfield, Rankin County.

Dr. H. L. Boone from Laurel, Jones County.

Dr. Bert R. Burgoyne from Laurel, Jones County.

Dr. R. P. Hudson from Utica, Hinds County.

Dr. L. T. Carl from Jackson, Hinds County.

Dr. T. J. Barkley from Humphreys County.

Dr. A. D. Hurt from Alcorn Conuty.

Dr. T. R. Williams from Panola County.

Dr. W. W. Nobles from Tunica County.

Remove:

Dr. D. C. Alsobrook from Bolton, Hinds County. Gone to Georgia.

Woman's Auxiliary

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Advisory Council: Dr. H. Lowry Rush, Meridian; Dr. Leroy Wilkins, Clarksdale; Dr. Henry Boswell, Sanatorium; Dr. J. P. Wall, Jackson; Dr. J. R. Hill, Corinth.

OMISSIONS

Mrs. T. M. Gore, Houston, assistant Councilor, Third District.

Dr. J. R. Hill, Corinth, member of Advisory Council.

Mrs. W. W. Crawford, Hattiesburg, Memorial Chairman.

Mrs. Philpot wishes attention called to the error in the use of a word in her Message: "prevention" should have read "Preventorium."

OURS TO EDUCATE

Our national leaders of the American Medical Auxiliary have worked out a formidable program for state auxiliaries. We are urged by the national president to become leaders in the community health program by:

- —enlisting our services in the many branches of defense work;
- —showing what scientific medicine is doing for public health and welfare;
- —education against the danger of cults and charlatanism;
- —education in the community control of the

practice of medicine;

—educational crusades against falsely premised legislation;

—education to have all opinions emanate from the medical profession, which combines life-giving, and life-saving knowledge with unstinting labor. There is no rational control otherwise.

In the above six pointers, five of them are direct exhortations to auxiliary members to inform the public. But how can we be instruments of enlightenment lest we educate ourselves? Let members first read *Hygeia* every month, let them read the editorials in their state medical journal, *Southern Medical Journal*, and the *Journal* to the American Medical Association (if these are not available, see that our husbands start getting them).

Then, can we inform ourselves sufficiently on medical legislation and public relations to be able to discuss them judiciously? (If we don't know what legislation our doctors want, we must consult the TRANSACTIONS of the Mississippi State Medical Association. This is on our husbands' desks too.)

Now we can renew our zeal for Red Cross classes, Civilian Defense, selling (and buying) Defense stamps and bonds, cancer control and tuberculosis campaigns. And we won't forget Doctor's Day for our dear overworked husbands.

Shall we, as wives of doctors, hold ourselves aloof to the need for assistance, intelligent assistance, that the leaders in every community are pleading for? Shall we not take the role of leaders? The time has never been more ripe for wives of doctors to exert their influence to keep alive in a world bent on death the love of One who said, "I came that ye might have life and have it more abundantly."

"People here in America read with horror the appalling list of dead piled high on the fields of battle, yet the final total of all American soldiers killed throughout all of World War I did not even equal the number of healthy citizens—100,000 of them—who died needlessly through accident here in America last year alone.

"When we think of public health work, we think largely in terms of contagious and communicable disease. We have written stringent laws, organized large health departments, and spent many millions of dollars to keep these human scourges under reasonable control. Yet, add them all together, treacherous measles, scarlet fever and whooping cough; frightful infantile paralysis, lockjaw and meningitis; deadly typhoid, smallpox and diphtheria, and then for full measure put in the greatest of all killers of youth—tuberculosis; add all these together and they hardly equal the automobile in the numbers that they kill each year in America. Kill, did I say? But that is the least part of the frightful story. For every person killed by the automobile, there are ten others painfully injured—many horribly and hopelessly mained for life.

"People everywhere seem to have developed an amazing interest in public health work. Certainly, unless this great lay interest in the prevention of disease and death is purely hyprocrisy, it should be possible for some inspired organization to enlist large and militant support in a nation-wide campaign for far greater safety on the open road—*Bulletin* of Woman's Auxiliary to A. M. A.

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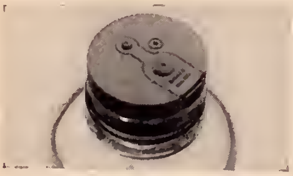

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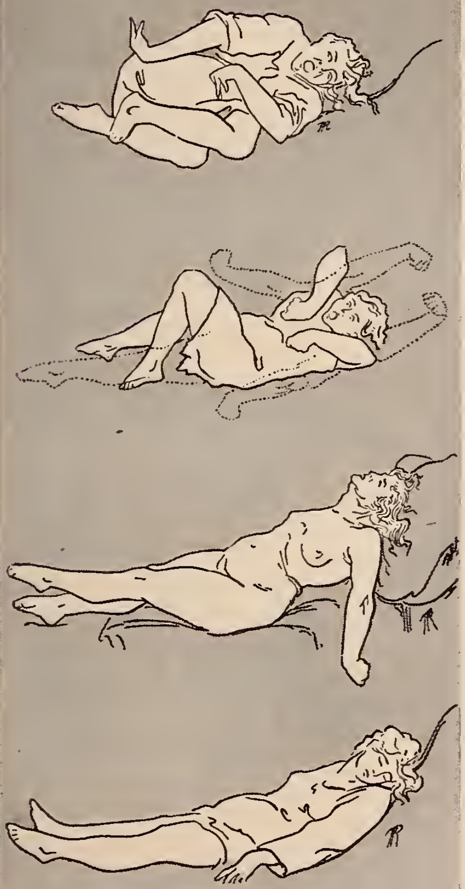

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1. McEachern, D.: *Canadian Med. Ass'n. J.*, 45:106, 1941.
2. Lennox, W. G.: *Med. Ann. Dist. Col.*, 10:461, 1941.

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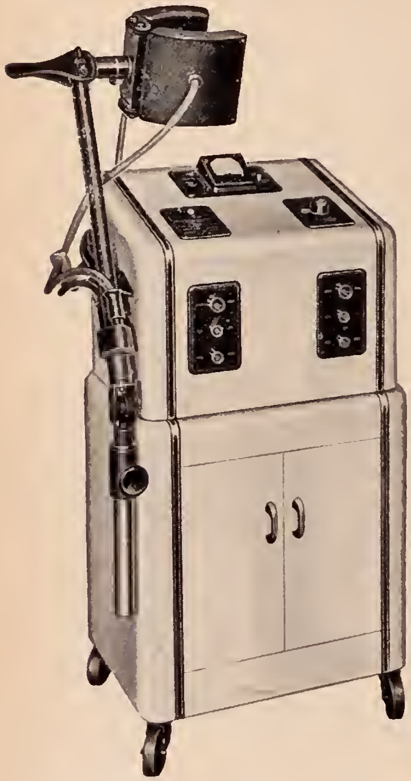

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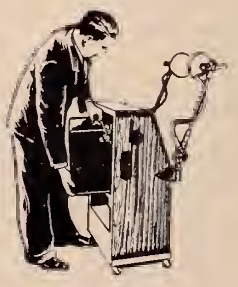

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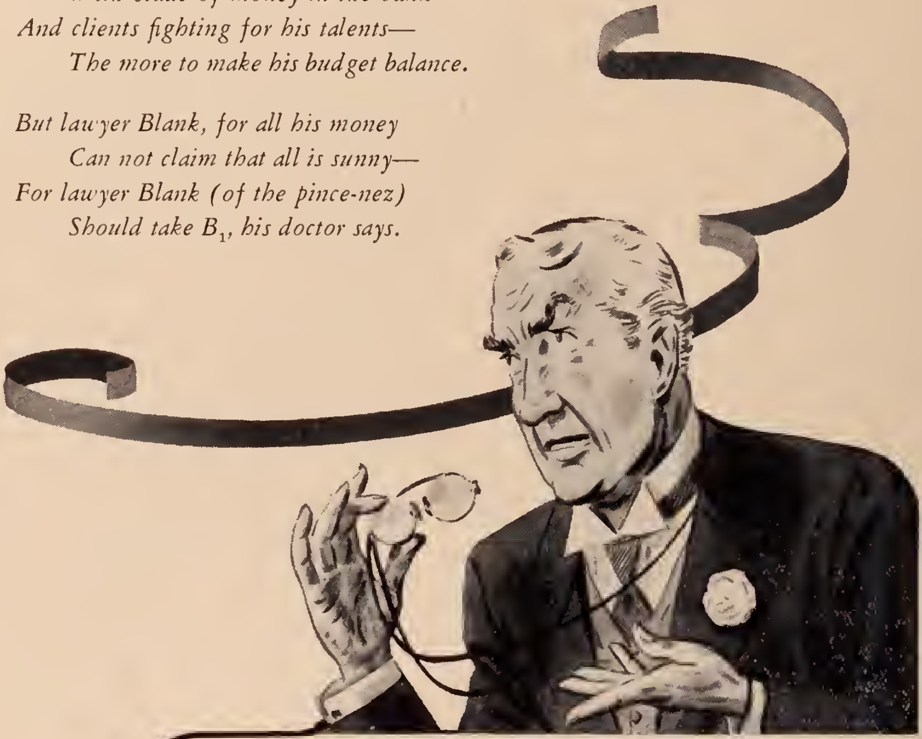

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[1] Reimann, H. A.: Treatment in General Medicine, 1941 Progress Volume. Phila., F. A. Davis Co., 1941.
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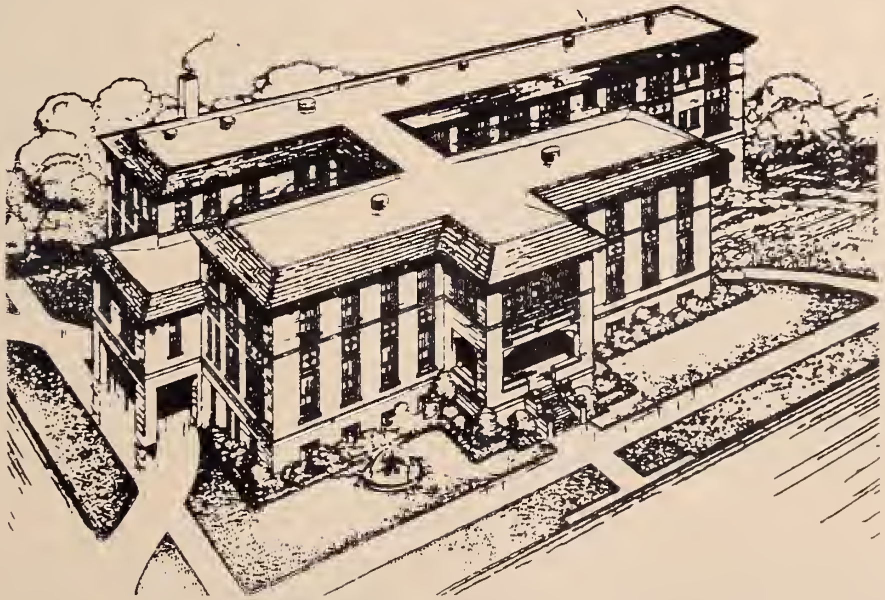

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THE ART OF DOING THINGS WELL

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The Prevention and Control of Peritonitis*

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THREE FACTORS should be considered in relation to the prevention and control of peritonitis: the toxic or casual factor; the propagating factor, or the substance in which the responsible micro-organisms acquire numbers and virulence; and the diffusing factor, the liquid in which the bacteria are carried from one part of the peritoneum to another.

THE TOXIC FACTOR

To prevent pathogenic bacteria from entering the peritoneum is the purpose of aseptic and antiseptic surgery. This may concern the overlying skin surface of the body. Notoriously difficult to sterilize are cracked, blistered or granulating surfaces. The usual antiseptics used upon such skin are quite ineffective; the deeper acting germicides usually seriously damage unbroken skin. We have found a 10 per cent solution of zinc chloride to be particularly effective as it penetrates deeply through granulating and abraded surfaces, which should be excised after the sterilization; but does not penetrate the keratin layer of unbroken skin. It is very destructive to mucous and serous surfaces, upon which it rarely should be used.

From biliary and especially fistula of the small intestine an intense erythema may result that will prevent the sterilization of skin. Ointments, pastes and varnishes, even when combined with metallic powders, as aluminum, hold the irritating discharges against the skin and in my experience have been harmful. At times a mushroom or plain catheter may be fitted into the opening and the discharging liquids carried from the body. The patient should be kept under a bed cage containing one or more electric lights, all dressings should be removed and the skin dried and kept dredged with a thick layer of zinc stearate powder. The discharges are caught on pads placed at the side of the patient. If these procedures fail and the secretions are sufficiently liquid, a suction drain may be placed in or over the opening to aspirate discharging fluids. Biliary fistulas not associated with obstruction often will close under such aspiration. Troublesome intestinal fistulas may be closed even in the acute purulent stage by liberating the intestinal edges, which are inverted and united without tension with very fine (36 gauge) interrupted alloy steel wire sutures tied in a square knot with the ends cut close to the knot. Fistulas of the gallbladder persisting after cholecystostomy are due to an obstruction at the neck of the gallbladder, commonly an unremoved and impacted gall stone. If the fistula cannot be sufficiently dilated to explore the gallbladder with dull curets and stone forceps, or to insert an open cystoscope and disintegrate and remove the stone by the application of ether upon small cotton applicators, the gallbladder should be removed aseptically. The outer part of the fistula is sterilized by applying zinc chloride solution on applicators, the fistula delineated by injecting methylene blue solution and with the outer opening occluded, the scar, fistulous tract and gallbladder are removed in one piece, closing the abdominal walls with interrupted sutures of alloy steel wire. By prevention of contamination from the skin or fistula the danger of the peritoneal operation largely may be eliminated.

The first principle in the prevention of peritonitis is to eliminate foci of infection in the abdominal cavity before the infection has had opportunity to spread. A common example of this is the removal of an inflamed appendix before it has become gangrenous or perforated. By this practice thousands of lives have been saved. A similar safe procedure often is neglected in the treatment of the acutely inflamed gallbladder. The common acute obstructive cholecystitis resulting from a stone impacted in the neck of the gallbladder is during the first week of the inflammation usually associated with little or no sepsis; although the pressure of retained fluids, mucous secretions and inflammatory exudate upon the mucosa may arrest its blood supply and lead to necrosis and gangrene of the lining of the gallbladder. Later Escherichia coli and other bacteria penetrate the walls and render the contents virulent to the general peritoneum. Therefore, these acute gallbladders should be removed during the early days of the attack when cholecystectomy may be done with a relatively very low mortality instead of waiting one or more weeks until a virulent local infection has developed and may lead to perforation or abscess or to high mortality from even a simple cholecystostomy.

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Another example of the danger of peritonitis from delay is that following the commonly accepted treatment of acute diverticulitis of the colon, a treatment comparable in some of our best clinics in method and results with that for appendicitis fifty years ago. The disease has been termed "left-sided appendicitis." The symptoms are similar to appendicitis and the results of perforation even more serious; and yet local fomentations with rest are advised until abscess or perforation occur, when drainage is used or finally, if other measures fail, a colostomy or, exceptionally, a late resection of the colon. The treatment often continues over a year and at its completion one noted clinic reports a mortality of 18 per cent and that 29 per cent of the survivors are not cured. How much better to treat these patients having a diverticulitis characterized by local induration and tending to perforation by relatively early sigmoidectomy, for which the mortality should be less than five per cent! In recent years I have had no mortality from resection of the sigmoid before perforation has occurred and our total mortality has been 11 per cent for this condition.

A marked reduction in the mortality for the resection of the colon has followed a closed or aseptic technic. During the last ten years we have not used a permanent abdominal colostomy for a removable intestinal carcinoma. For rectosigmoid growths the loop of diseased bowel is usually liberated through an abdominal incision which then is closed and the loop, guided by an attached tape, brought out through a perineal opening and opened or cut away only after the internal part of the operation has been completed. The perineal opening, even when the sphincters have been excised, has been found so much less troublesome than an abdominal colostomy that in eight patients an abdominal colostomy has been moved to the perineum. In most cases the sphincters may be preserved without increased danger. For growths above the lower sigmoid a one stage, aseptic, end to end anastomosis over a single clamp more recently has proved very satisfactory, even for resection of the ileocecum. To prevent peritonitis a somewhat similar resection of the stomach, even to a complete gastrectomy, may be made by closed aseptic anastomosis over a single clamp.

There are occasions in which a stage operation is of great advantage in preventing a general peritoneal contamination from the drainage of localized septic foci in the abdomen. We had very large open glass tubes made, up to seven cm. in diameter, with four openings near the top and also at the bottom for anchoring the tube by four sutures over the area to be drained. When sufficient adhesions have formed to isolate the area, which with glass takes several days, the part is vented by cautery or scissors through the glass tube. This has been used in 17 cases of advanced infection of the gallbladder without mortality and is adaptable for the stage drainage of appendiceal and other localized abdominal abscesses, which have a mortality of six per cent or possibly more when drained through the free abdominal cavity.

THE PROPAGATING FACTOR

In crushing or suturing the unopened intestine some degree of bacterial contamination often results which, however, usually is insufficient to lead to peritonitis unless a medium is present in which bacteria may be protected from phagocytes and multiply, later to swarm out in numbers sufficient to overwhelm the peritoneal defenses. Such a medium is blood or avascular tissue or serum, always dangerous when left against an area from which bacteria have escaped, even a "clean" appendiceal stump. It is a rule of safety not to remove an uninflamed appendix when abdominal or pelvic operation has left a field from which there may be postoperative oozing. If oozing of blood cannot otherwise be controlled, a packing of narrow folded gauze should be introduced and most conveniently brought out of the abdominal wound through a narrow glass tube, which greatly facilitates the early removal of the packing with the least interference with the union of the abdominal wound.

THE DIFFUSING FACTOR

Spreading peritonitis is a liquid-borne disease and the process may be arrested by continuously removing all free fluids from the cavity. Rubber, gauze, cellophane and other plastics rapidly incite the formation of peritoneal adhesions and as a result are walled off quickly from the general peritoneal cavity, which then is no longer drained. Glass, 18-8 alloy steel, vitallium or tellurium tubing may remain for days free in the general peritoneal cavity and therefore are adapted for continuous drainage. Unless dependent drainage is feasible an outer tube with perforations one or two mm. in diameter should be used with a smaller, inner aspirating tube connected by rubber tubing through a collecting bottle with a continuously acting aspirating device, such as a water siphon or a miniature, low capacity, motor-driven pump. We have had these double lumen tubes (pump drains) made in diameters from five to twenty mm. and of varying lengths so that they may reach to the deepest parts of the abdominal or pelvic cavity. Introduced under local anesthesia through a trocar puncture or stab wound, they enable the diagnosis of the type of peritoneal effusion and the character of the bacterial contamination. Left in place for continuous aspiration with appropriate sulfonamide treatment in cryptogenic streptococcic or pneumococcic peritonitis, in a small series the results have been excellent. In patients with advanced peritonitis for whom the Ochsner treatment is elected, I feel that such peritoneal drainage without formal operation should be associated. In less advanced purulent accumulations from perforative or gangrenous appendicitis, the appendix is removed through a small transverse muscle-splitting incision with the least possible disturbance of the peritoneum. The drain is inserted to the bottom of the pelvis and the incision lightly closed about the drainage tube with alloy steel wire sutures. Usually the aspirated fluid gradually becomes less purulent and more serous, loses its fetid odor as exuded serum washes the peritoneal cavity and finally, when only clear serum is withdrawn in only minute quantities, the drain is withdrawn. With this treatment, which should not be accompanied by any other form of drainage, the wound may be practically closed and the patient in condition to leave the hospital ten or twelve days after the operation. We have had a number of patients in whom leakage from the stomach or intestine has been carried quickly from the peritoneal cavity by these aspirating drains. In some cases as many as three drains have been inserted in one abdomen. We are convinced that in a number of patients the procedure was life-saving.

Enterostomy or, when feasible, appendicostomy, often condemned because considered dangerous and undesirable when used improperly or too late, is a very valuable procedure in certain types of peritonitis. It is indicated after abdominal operation when the patient develops painful abdominal cramps with distention not relieved by Wangensteen drainage or rectal tube. The Miller-Abbott tube is not applicable when the colon is obstructed or distended and entails undesirable manipulation and delay. An appendicostomy is preferable. The appendix is withdrawn through a small transverse muscle-splitting incision without constricting the meso-appendix, the incision is lightly closed with wire sutures, dressings applied about the appendix, the tip of which is then cut off, and a 14 F catheter introduced through it into the cecum and tied in. Gentle continued irrigation with warm saline solution and later a 1:10 peroxide of hydrogen solution is continued until the bowel is deflated. If the appendix has been removed or is imperforate, a cecostomy should be done provided this section of the intestinal tract is distended. In extreme cases with loss of peristalsis, multiple enterostomies may be required and at times are life-saving. In one patient nearly moribund, an ileostomy, cecostomy and finally a transverseostomy favorably turned the issue for a patient when he seemed to have a hopelessly advanced peritonitis with loss of peristalsis. The distention may interfere with the circulation of the intestine and lead to desquamation and necrotic change in the mucous lining. Enterostomy is very valuable in the postoperative period. It is dangerous and rarely to be used when an obstruction results months or years after operation, for then a strangulating obstruction usually is present which requires exposure and direct relief from the cause.

FEASIBILITY OF PROLONGED GENERAL PERITONEAL DRAINAGE INDICATED BY:

1. Observations through large open glass tubes anchored in human peritoneal cavity showing absence of plastic exudate and isolating adhesions up to seventy-two hours or longer.
2. Reopening peritoneal cavity for mechanical ileus forty-eight hours after proctosigmoidectomy, revealing dry peritoneum, absence

of adhesions and open large glass drain.

3. Graphic charts of pump drainage in peritonitis showing free flow of fluid, then sudden cessation after seventy-two hours or later.

4. Lowered mortality and infrequency of secondary peritoneal abscesses with pump drainage.

Compound Fractures*

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Now compound fractures, as you all know, are fractures in which there is communication established between the site of the fracture—the break in the bone— and the outside air. They differ from fractures in which that condition does not exist, in that they are contaminated until proved otherwise by passage of bacteria, and the tendency of a compound fracture is to become infected unless something is done to prevent it. The treatment of the fracture itself is secondary to the prevention of infection. As a matter of fact the treatment of the fracture itself in a compound fracture is usually less of a problem than is the treatment of the same fracture where the skin is not broken. Now we shall consider the treatment of bone fractures—I hope I will not be too brief, nor yet talk too long, and I will try not to leave out anything which I think is essential. On the other hand I may of course make statements with which a good many of you do not agree, and we will welcome criticism and questions.

When the individual is hurt he is usually hurt away from the hospital and should first have emergency treatment and the wound should be dressed if possible. Sterile dressing should be applied if it is available, if not a clean dressing. Blood should be staunched unless it is alarming and in quantity by pressure. Of course if the large vessel is destroyed a tourniquet will be indicated.

At the time of the original dressing, if possible sulfanilamide powder should be placed in the wound. This is because whether or not you believe in local application of sulfanilamide, we do know that it inhibits the growth not only of streptococci but also of staphylococci, and also gas bacilli as well. You do not need to worry about putting too much in. A tablespoonful or a handful may be thrown in the wound—it can do no harm, it may do a lot of good. I think the most forward step along this line is the suggestion made by Dr. Guy Caldwell to the effect that ambulances which go out to pick up injured should be equipped with sulfanilamide power so that it can be placed in the wound, and with that I thoroughly agree.

Now then splinting. There is a good deal of disagreement about what compound fracture should be splinted. In a discussion not long ago, Dr. Marble emphatically stated that every bone fracture should be splinted before it is moved. Of course that is nonsense. If a splint is available it may be used. The important thing about compound fractures is to get the patients to the hospital as soon after the injury as possible, and get them to a hospital where they will be taken care of, and where they will not be put to bed and left for an indefinite time probably hours before they are treated.

A compound fracture of the femur is a dangerous injury. A patient who has suffered a break of the femur and compound fracture, and trauma of the muscles around it, is apt to be in shock. This patient is apt to be dangerously injured. Such fractures should if possible be splinted. If a Thomas splint is available of course it is the thing to use. If it is not available a long board which stretches from the axilla to beyond the heel can be used padded with a quilt or a blanket and the leg bound firmly to it. Compound fractures of the lower leg should also be splinted if the patient is going to be transported for a considerable distance. The handiest and perhaps one of the most useful splints is a pillow splint; just rest the leg on it and tie it around with a blanket. On the other hand these fractures do not, as a rule, suffer the same degree of shock as the femur. I had one Sunday. He was brought in 85 miles with no splint at all. He was in perfectly good shape when he got there. I think he would have been better if splinted, but he was not and he arrived in an automobile.

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*Given before the Section on Surgery at the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 13 and 14, 1942. Discourse taken from stenographer's notes.

The femur fractures should of course be transported in an ambulance if possible. The patient should not be moved into a house and then an ambulance sent for; it is better for him to be made as comfortable as possible as close to the scene of the accident as possible, because moving the patient is one of the things that increase the damage to the soft parts and add to the shock. So in splinting I think common sense is the thing to use. Arms can be bound to the side, carried on a pillow or supported by the patient's hand, and they can go in an ordinary automobile. Femurs and lower legs should, if possible, be taken in an ambulance and the patient should be left where he is until the ambulance arrives. At the hospital the first thing to consider is the general condition of the patient. Has he other injuries? I saw a fellow with a compound fracture of the femur and of both bones of the leg. He did not seem to be very sick on his arrival, but the next thing I heard of that man was that he died. I was just asked to go out and see him in regard to the fracture, and he was in a very good hospital. So other injuries should be expected or at least looked for. The general condition should be studied. If the patient is in shock, the shock should be treated first.

Many people think that the best treatment for shock is the treatment of the fracture immediately, presumably under general anesthesia. They rush him to the operating room and operate on him. I think he should be given fluids, and for an adult man a half grain of morphine is probably the best thing to give him immediately. Body heat should be restored and he should be given a quiet place where he won't be disturbed. Fluids in the way of salt solution may be instituted until blood can be given. As soon as he begins to react from the shock then treat his wound. It is an extremely important factor in the treatment of compound fractures, but it is not as important as it was a few years ago, because now we have sulfanilamide drugs which will aid in preventing infection. The use of drugs does not mean that we can ignore surgery, but it does mean that we can operate with relative safety at a much larger interval after the accident then we used to. X-rays are not very important, strange to say. In a busy field unit of the Army the x-ray will probably never be used. It is obvious that a man who has a compound fracture of the leg or the arm or whatever part is injured, that part is going to be exposed and foreign bodies if they are not removed are going to appear in the wound. If the patient has traveled a long distance leave him alone. If it is a compound fracture you are going to see what is there. Put a man in severe shock to bed and treat him for his shock and as soon as he reacts enough for you to believe it is safe to operate on him, operate.

Should it be under general or local anesthesia? It depends on the surgeon and the anesthetist. If you have a good anesthetist general anesthesia is certain. If you have a surgeon who is used to local anesthesia, then he can do most of them under local. I do not think one has much preference over the other. One thing that should be remembered, however, is when the patient with a compound fracture enters the hospital he is an emergency and should take precedence over almost any other type of patient that comes in and he should be entered as expeditiously as possible and treated as soon after entrance as possible, with as little red tape as possible. When we get the patient to the operating room his skin is dirty, and exposed areas should be cleaned and sterilized. There are a great many ways of preparing the skin—a dry shave or wet shave—probably the best is to scrub the patient with green soap and water and shave him and then scrub him with alcohol after the soap is washed off, then with ether, followed by one of the skin antiseptics. It is probable that in war conditions most of these wounds will not be shaved; if they are, it will be a very sketchy dry shave and they will not be scrubbed because they won't have the soap and water or the time. Where men are going through a field hospital operating room rapidly, it takes longer to shave the patient than it does to do the operation and put the cast on, so what they will probably do is to paint with strong tincture of iodine and wash off the excess with a little alcohol. There is a good deal of talk about whether the skin should be painted with an antiseptic. This is an era in which antiseptics are frowned upon. Of course they damage the tissues; on the other hand you are going to excise the skin so why do you object?

Now what constitutes a debridement? It is an effort on the part of the surgeon to remove all devitalized tissues of foreign substances, and that includes bacteria. The type of debridement varies tremendously with different surgeons. One man thinks a block resection should be made of this wound; another man feels that the skin edges should be excised. Excise the skin in a continuous strip and when the strip is broken you should start back a little beyond where it broke and excise a little clean skin, but do not take any more off than you have to. I try to keep it down to a fourth or an eighth of an inch, because skin on the extremities is precious when you come too close, especially if the extremity is swollen. Sometimes it is hard to close without tension. Then let common sense be your guide in how much to take out. After the skin is excised the wound is extended up and down the leg for a distance to permit opening and seeing the botton of the wound, or if it is a through and through gunshot opening and seeing to and beyond the opening of the wound, so that with the wound of entrance you can from the opposite side, go down and communicate with the one on the exit side, that is the first wound you operate on because it is where the damage is. Take out as little bruised muscle as possible; avoid injuring nerves, avoid cutting across important blood vessels and when you do cut across relatively large vessels tie them before you cut them. Save the patient's blood in every way that you can, because this patient has already lost blood and that is one of the most important factors in shock. It is well usually to cut the fascia transversely for you avoid injuring the skin wound up and down, and excise the subcutaneous tissues. Get out the shredded fascia that is hanging loose and when you get to the bone the pieces that are loose and have no blood supply, take them out. They do not do any good if you leave them in, in fact I think they are more apt to impede healing than to stimulate it and they interfere with the surface through which callus might grow. I never run across loose pieces—I have left them in but I have never been particularly glad of it. If they have an adequate blood supply then they should be saved. The more bone you conserve the more apt you are to get union if it is living bone. Examine the ends of the bone; if they are contaminated cut them off; don't scrub them up. The question is whether or not this wound should be irrigated. You have taken out all the foreign material that is possible, you have taken out your muscles which you think are dead (they do not bleed and they do not contract and are obviously mashed), you have taken out your soft damaged tissues, you have avoided in every way that you can taking out anything that isn't damaged—a great many men say you should irrigate for half an hour with hot solution in order to clear that wound. That of course is also nonsense. I think it is all right to run some salt solution in there, maybe a quart—I have used two quarts, and I have done a good many compound fractures without irrigating at all. It depends on how dirty the wound is. I have scrubbed them with soap and water where they had grease in them. This fellow that I was talking about, I did not irrigate at all; in fact I was operating on him just ten minutes—he had two punctures that were due, I think, to loose fragments which had been forced through. I took out three or four, one as big as the end of my thumb, cleaned it out, cut the skin edges and cut out some more stuff, put some sulfanilamide on and stood him up and put the cast on and he has been all right. I have not seen an x-ray but I wouldn't change it anyway now. You can so shape the ends of the bones that they will lock with sufficient stability that you can get the cast on without internal fixation, or if it is a complete fracture you can treat it with traction.

Now then after you have irrigated that wound with salt solution, then dry it out well, get all the bleeding stopped that you can stop; do not tie any vessels unnecessarily; if the wound is obviously very dirty, you might be inclined to use plain catgut for tying, if you think you have a good chance of getting by with it. I would use fine silk or down South cotton. Either way I like that better than catgut because it produces less immediate reaction . When the wound dries, if you can close it, I think it should be closed. That is against the dictates of the College of Surgeons, against the tactics of the Surgeon General's office, and I agree with the Surgeon General but not the College of Surgeons. I think that a great majority of compound fractures in civil life can be closed. You are going to have occasional infection. With sulfanilamide or sulfathiazole in the wound I think the danger is slight. If not closed entirely you can close it any degree you think is sufficient—sprinkle sulfanilamide or sulfathiazole over the surface. I have not seen any bad results from the local application of the drug especially where the drug was also not given by mouth, and I have used it in clean operative cases, I should say about 350 to 400, and probably 150 infected cases, may be 200. Just from the local application I have seen that it does not damage. There is no question in my mind that the sulfonamides inhibit development of bacteria in a great majority of cases, so sprinkle it in the wound whether you are going to leave it open or close it.

If you are going to leave it open try to get your tendons covered with soft tissues. I should have remarked that I suture tendons and when I run across a major nerve that is cut I suture that. At least it puts the ends close together. Because the bone is broken is no reason why you should not do the same thing. Then it is a question of whether or not you are going to use internal fixation. The ordinary surgeon should not use it because it is difficult to apply, and there are many men doing surgery who are not very good carpenters. I was talking not long ago to a professor of surgery in the University of California and he said any man who can use a knife and fork can be taught to do surgery. In a majority of cases that is true, but he can not be taught to apply internal fixation with compensation and dispatch. In the first place it takes a good long while, and in the second place it is very apt to be applied with poor mechanical technique, so ordinarily I would say don't use it. You can if you have to hold the bone ends with stainless steel, with sulfanilamide; I don't think there is enough extra risk, so it should be avoided. I think that the added fixation you get more than compensates for it, but unless it is necessary don't do it.

Now the limb must be immobilized afterwards. One of the most important factors in the prevention of infection is immobilization. The wound may be packed open with vaseline gauge or dry gauge or sutured; the fracture should be reduced first—the limb held in as nearly the same position as possible and then a plaster of Paris cast applied. You can use padding or not use it. Non-padded casts give you more immobilization, and they are comfortable if properly applied. The trouble with padding is in putting the padding on. You are apt to lose the position of your break. The point about non-padded casts is to put them on wet. Do not put a semi-dry cast on. You can use a splint and you can fix it in anyway that you think it should be fixed. Personally I use plaster of Paris exclusively. Then the patient should be watched. The important thing about closing fractures is that the patient should be looked after until there is no longer any danger of infection, that is, up to a week or ten days. If you are going to have anything happen you will have it happen before the first week is out. If it is immobilized your infection will occur promptly or not at all. And do not look at the wound. If your wound is infected your patient is going to get sick. He is going to have pain and fever, his pulse will go up. You do not have to look at the wound to tell if it is infected. I think more damage is done looking at a wound than leaving it alone.

In the army because men have to be operated on and immobilized and transported and can not be followed by the man who does the operation, it is dangerous to close a wound. Probably all will be left open, but in civil life where the patient can be watched I think it is up to us to watch, sprinkle sulfanilamide over the surface of the wound after the suture, and leave in the stitches until the bone is solid. You can leave them in eight or ten weeks and take them out without danger of stitch abscesses. I have had no trouble with stitch abscesses since I began this practice.

Amebiasis – Diagnosis and Treatment

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SYNONYMS—AMEBIC dysentery, entamebic dysentry, amebic colitis, amebic enteritis, amebic abscess of liver and other organs.

By the term amebiasis is meant the state of being infected with the protozoan organism known as Endamoeba histolytica and includes all the clinical picture caused by the invasion by this organism. Due to the fact that acute, fulminating cases of dysentery, caused by Endamoeba histolytica are encountered sporadically in the sub-tropical and temperate zones, many physicians have "pigeon-holed" this disease as one occurring primarily in the tropics and lose sight of the fact that many bizarre pictures with vague symptoms are caused by the invasion of the tissue by Endamoeba histolytica. Others have come to associate the term amebiasis with dysentery or diarrhea. Amebic dysentery is not a disease entity, but is merely one stage in the development of amebic infection. Amebiasis embraces the signs and symptoms present in mild infections in which vague gastrointestinal symptomatology is present; those present accompanied by severe enteritis; those present in acute amebic dysentery; and those present in complications from invasion of the liver, lungs, brain, skin, or other organs by the Endamoeba histolytica.

HISTORY—Many writers state that amoebae as a cause of disease was first described by Lambl of Prague in 1860 when he reported them in the stools from a case of severe diarrhea in a child, but some zoölogists, Leuckart (1863), Grassi (1888), and Dobell (1919), believe that the organisms he described were degenerated trichomonads. In 1870, Lewis and Cunningham found amoebae in 20 per cent of the stools of cholera patients, but attached no pathogenic importance to them. The first accurate description we owe to Losch of Petrograd, who in 1875 studied an undoubted case of amoebic dysentery with relapses, and he named the organism amoeba coli. He was further successful in reproducing the disease in a dog, and then began its experimental investigation. Not much progress was made until Kartulis in Egypt began, in 1886, his investigations on dysentery, and because of the rich clinical and pathological material at his hospital, his work has been of great value. In 1890 Osler published the first paper in America. He was followed by Musser and Stengel and, in 1891, by Dock, Councilman and Lafleur. The work of the last two authors was especially complete and served to establish amoebic dysentery as a distinct clinical entity. In 1893 Quincke and Roos differentiated the pathogenic from the harmless amoeba, and discovered the encysted stage which they showed was smaller in the pathogenic than in the harmless species, thereby furnishing an adequate basis for further investigations. Schandinn accepted the name for the genus previously proposed by Casagrandi but named his pathogenic species Endamoeba histolytica and the nonpathogenic Endamoeba coli. These specific names are still in use. A carefully planned series of experiments on human beings subsequently carried by Walker and Sellards, demonstrated that the human being becomes infected through the ingestion of cysts and that the development of E. histolytica may result in dysentery while E. coli develops without producing symptoms. Cultured nonparasitic amoebae failed to multiply in the intestine. This series of experiments also led to the conception of the carrier state in amoebiasis. Our present knowledge of parasitic amoebae we owe also to the more recent investigations of Sellards, Darling, Wenyon, and O'Connor, James, Dobell, Kofoid, Craig, Mackie, Melleney and others.

MORPHOLOGY — The active forms measure from 20 to 30 mm. or even larger when rounded are practically colorless, and show a finely granular endoplasm of uniform appearance and a well developed clear ectoplasm. The nucleus is a delicate, nearly spherical vesicle, inconspicuous, but visible under favorable conditions during life. In well stained preparations, the delicate achromatic nuclear membrane is lined internally with a layer of fine granules of chromatin. Centrally situated in the nucleus is a small rounded, deeply stained mass, the karyosome, which is surrounded by a clear zone. The motile amoeba obtained from a freshly passed stool and examined immediately moves rapidly in one direction across the field. After being kept for some time outside the body, the amoeba takes on a more rounded form and ceases to progress.

In the host many of the Endamoebae histolyticae lose all their cytoplasmic inclusions, such as food particles from the cytoplasm and a gradual cessation of movement resulting in the so-called precystic forms. A delicate transparent membrane is secreted on the surface of the organism which is then called a cyst. When first formed the cyst contains a single nucleus but this subsequently divides twice to form the typical quadrinucleated cyst.

The life cycle of Endamoeba histolytica: The cysts are swallowed in contaminated food or drink and after reaching the lower part of the ileum and the upper part of the large intestine, the cyst liberates a motile ameba containing four nuclei. After liberation from the cyst this ameba eventually divides into eight young amebae, according to Dobell and others. Then these young amebae, or trophozoites invade the tissue of the intestine by virtue of their ameboid motility and the softening and cytolysing of the tissue through a cytolytic substance which they secrete. The motile form of the Endamoeba histolytica when swallowed by mouth is usually destroyed by the hydrochloric acid in the stomach.

Approximately five to ten per cent of the population of the United States are infected with E. histolytica, depending on the locality. The Southern states show the highest incidence of infestation. The usual methods of transmission of amebiasis are through the ingestion of the cyst of E. histolytica in contaminated water; by food contaminated while being handled by "carriers" of the ameba; by the use of human excrement for fertilization purposes; or through the droppings of flies and, probably, cockroaches, that have fed upon material containing the cysts. There are laws prohibiting the use of human excreta for fertilizing purposes, but many truck farmers continue their practice. There were 30 food handlers found in Alcorn County in the last six months through routine stool examinations made by the Public Health Department, which harbored E. histolytica. The majority of these gave no history of diarrhea or symptoms that would lead to the diagnosis of amebiasis.

Symptomatology: There are no pathognomic symptoms of intestinal amebiasis and the diagnosis must rest upon the demonstration of the parasite, but certain symptoms do occur in all stages of this infection that are suggestive, and in some instances, almost diagnostic. Approximately 50 per cent of the patients who have amebiasis have symptoms not referable to the disease but which usually disappear under treatment. Many present no symptoms at all. The popular conception that ambiasis is always associated with diarrhea or dysentery is misleading and should be abandoned. Dysentery is only a symptom of amebiasis and occurs only after much ulceration has taken place in the intestine. Constipation is by far a more common symptom and particularly in this section.

The incubation period is most variable and appears to depend on several factors; the resistance of the host, the number of cysts ingested and the virulence of the strain of E. histolytica. But the experiments of Walker and Sellards (1913) would indicate the incubation period is from 20 to 100 days. They fed 20 men material containing cysts of the amoeba, of whom 18 became parasitized and four developed amoebic dysentery. Of the four developing dysentery, the time elapsing between the feeding of the material containing the cysts, and the onset of symptoms of dysentery were 20, 57, 87 and 95 days, respectively, although the average time after feeding until amoebae were found in the stools was nine days.

In the general consideration of the symptomatology of amebiasis it is better to divide the cases into several classes; namely, (1) the so-called "healthy carrier;" (2) cases presenting mild intestinal symptoms; (3) those having attacks of severe diarrhea; and (4) those suffering from acute or chronic dysentery.

I. Usually there are no symptoms noted in the so-called "healthy carrier" and the infection is discovered during extensive field surveys for parasitic infections or accidentally while examining the stools for other parasites. Approximately 30 per cent of the individuals found infected with E. histolytica will be in this class. Although these cases present no subjective symptoms, it does not exclude the possibility of active symptoms developing at any time in the future without warning and it is probably true that they will if the infection persists. The writer recalls a case seen in 1934 in which the first symptom was pain in the right side of the chest, which proved to be, later, an amoebic abscess of the liver which ruptured into the right pleural space. Even though these so-called "healthy carriers" have no symptoms the parasite, E. histolytica, is continually attacking the mucous membrane of the intestine and some of them are penetrating it and producing lesions by cystolysis which may be detected macroscopically or only microscopically.

II. Patients infected with E. histolytica and presenting mild intestinal symptoms, may contribute their complaints to a more obvious cause and the true picture obscured unless a detail history is elicited.

The symptoms most commonly observed referable to the intestinal tract are mild to severe constipation, abdominal distention and colic, flatulence, gas on the stomach, a capricious appetite, nausea and anorexia, headache, insomnia, sluggishness, pains in the legs, underweight, sallow color, anemia, excessive perspiration of the hands and feet.

III. In this group of patients the distinguishing feature is repeated attacks of diarrhea which may last for weeks or just a few days alternating with constipation. The diarrhea may be sudden in onset or preceded by a few soft stools and is accompanied by colicky pains in the abdomen. Mucus is present in varying quantities in the stools but usually no macroscopic blood is present and the motile E. histolytica may be found microscopically.

IV. In acute amoebic dysentery the onset may be acute or follow the symptoms described in the above paragraph. The acute attacks are usually ushered in by abdominal pain which is followed by a soft or liquid stool. The first stool may or may not contain gross blood. If the patient is seen following the onset of abdominal pain and before diarrhea has begun, the symptoms may be confusing and suggestive of a surgical abdomen. Nausea and vomiting may occur. Fever may or may not be present at the onset but many patients run a low grade temperature during the course of the acute attack. There are many stools (10 to 25 per day) which contain mucus and blood. Other symptoms are anorexia, belching, abdominal distention, headaches, muscle aches, mental depression and increased nervousness.

The clinical picture of chronic amebic dysentery is that of repeated acute attacks of dysentery with intervals in which the dysenteric symptoms disappear and the patient enjoys fairly good health or has only mild symptoms during the interval.

Diagnosis: For all practical purposes, the best and quickest method to make a diagnosis of amebiasis is to examine several warm stool specimens as soon as they are passed. The morphology of the amoeba and cyst has already been discussed. The motile forms are found during the acute stage and are difficult to demonstrate between attacks but the cysts are abundant and are easily identified by a skilled technician with the aid of iodine stains. Cultures of stools for E. histolytica are not difficult but they are not practical outside of the research laboratory. The compliment-fixation test of Craig is not yet on a practical basis because of difficulty in preparing the antigen.

In the chronic cases and in cases where it is difficult to obtain a fresh specimen for examination in the office, one may resort to a proctoscopic examination and a cotton swab used to obtain a fresh specimen from the base of an ulcerated area in the rectum. Roentgenray examinations may be helpful but are not diagnostic. Extreme care should be used if a barium enema is given during the acute stage.

Morbid Anatomy: One of the most frequent and confusing diseases to differentiate from amoebic dysentery is bacillary dysentery. The former is a protozoal infection of a chronic character unattended by any evidence of suppuration; the latter is an acute bacillary infection, the chief characteristic of which is suppuration. In the former, toxins play no part; in the latter, there is a powerful diffusible toxin, and the patient dies of toxemia. Once the cysts have reached the large intestine and have liberated the motile trophozoite, they penetrate the lumen of the mucous glands, and thus gain entrance to the submucosa. Here they penetrate the lumen of the mucous glands, they spread and set up a qualitative necrosis by cytolysis from the ferments produced. When the necrosis cuts off the blood supply the superficial tissue sloughs which leaves a ragged edged ulcer. As the submucosa is more extensively involved than the mucosa, the edges of the ulcers are deeply undermined, in distinction to the ulcers of bacillary dysentery, with their sharply-cut margins. As there is no diffusible toxin at work, the intervening mucosa is unaffected and usually appears quite pink and healthy. In bacillary dysentery, on the other hand, the mucosa between the ulcers is markedly hyperemic and inflamed.

Complications: The most important complications of amebiasis are amoebic abscess of the liver, amoebic abscess of the lungs, amoebic abscess of the brain and amoebic appendicitis.

Other complications are invasion of the skin, perforation of the intestine, peritonitis, hemorrhage and invasion of the gallbladder. Strong and Musgrave (1900) in the Philippines found 23 per cent of 100 autopsied cases of amoebic dysentery having abscess of the liver. But when one considers only clinical cases the incidence is much lower. Thus Tao (1931) found this complication in only 18 of 1000 cases of amebiasis or 1.8 per cent; while Oschner in New Orleans found amebic abscess of the liver in 59 or 15.2 per cent. The abscess may be single or multiple but usually single and over 50 per cent of the cases located in the dome of the right lobe of the liver.

TREATMENT: There are several drugs available today which are practically specific for the treatment of amebiasis.

The drugs which are most extensively used are emetine hydrochloride, chiniofon, vioform, carbarsone and a new drug diodoquin.

Emetine is an alkaloid of ipecacaunha. The salt used in medicine is the hydrochloride on account of its greater solubility. When used in therapeutic doses subcutaneously or intramuscularly emetine does not usually produce nausea or vomiting. Emetine hydrochloride has been very extensively employed in the treatment of amebiasis and for many years was regarded as a specific, but more recently studies have shown that while it is most efficient in controlling the symptoms of amebic dysentery it is not capable of eliminating amebic infection when employed alone, except in a comparatively small proportion of cases. In the treatment of 115 cases of amebic dysentery, by Craig, in which a full course of 1 grain of the drug was administered subcutaneously for 12 days, and repeated in at least half of the cases, no less than 56% presented cysts of the ameba in the stools after the discontinuance of the treatment, while further treatment of these individuals with the drug resulted in the elimination of the infection in but 6 per cent. In 40 per cent of these cases the amebae did not disappear from the stools during treatment, although the dysenteric symptoms disappeared, thus demonstrating that the disappearance of symptoms does not indicate elimination of the infection in patients treated with emetine. For this reason, emetine hydrochloride should not be employed in the treatment of amebiasis to eliminate the infection but only to control the symptoms of severe diarrhea or dysentery, after which either chiniofon or carbasone should be given.

The toxicity of emetine is much greater than that of either chiniofon or carbarsone. It is a cumulative drug, and a two-edge sword. Although emetine acts directly upon the motile forms of E. histolytica, likewise it has a direct action upon the heart muscle, causing degenerative changes which may result in a myocarditis, and death may occur from sudden heart failure. There is no known antidote for emetine.

Emetine hydrochloride is given subcutaneously, not to exceed one grain per day, for not over 12 days.

CHINIOFON: (Anayodin, Yatren). Chemically it is sodium iodoxyquinolinesulphonate and depends for it amebicidal properties upon iodine, of which it contains from 26 to 28 per cent.

The action of this drug upon E. histolytica is apparently a direct one upon the motile forms, and its proper administration is followed by the elimination of the infection in most cases. The dosage of this drug is three or four grain tablets orally three times a day after meals, for an adult weighing 150 pounds, for eight to ten days. If this dosage causes severe diarrhea it may be reduced to two tablets three times per day and later increased back to three tablets three times a day.

The toxicity of chiniofon is very low and is probably the safest of all drugs that are now employed in the treatment of amebiasis. No deaths have been reported in the literature from this drug when given orally. Craig believes, all in all, this is the most efficient drug we possess in the treatment of this infection.

VIOFORM: Chemically it is iodochloroxyquinoline and contains 37.5 to 41.5 per cent iodine and 11 per cent chlorine. The toxicity of vioform appears to be greater than chiniofon. Large doses in rabbits resulted in fatty infiltration of the liver, but the doses employed were such as would never be used in the treatment of amebiasis in man. According to Craig vioform is not as efficient as chiniofon. Vioform is administered in capsules (four grain) and one capsule is given orally, three times a day for 10 days and with a 10-day interval this course is repeated.

CARBARSONE: This drug contains 28.85 per cent arsenic and acts directly on the trophozoites. The toxicity of carbarsone is greater than that of chiniofon or vioform. The toxic symptoms are those of arsenical poisoning and this drug should not be given if optic neuritis, hepatic or renal damage is present. The drug is administered in 4 grain capsules, the dose being one capsule twice a day for 10 days for an adult.

Stovarsol and acetarsone are not recommended for the treatment of amebiasis.

Diodoquin: This is a new drug, and sufficient data are not available in the literature at this time to evaluate its efficiency or toxicity.

Treatment of Carriers: It is obvious that in the treatment of symptomless carriers a drug should be employed that will not interrupt his work, by the individual taking, and which can be taken without discomfort or injury to health. These requirements are fulfilled by chiniofon, vioform and carbarsone.

In the treatment of symptomless carriers Craig has found chiniofon to be the most generally useful and efficient. It is given orally in four grain tablets and the dose in three pills three times a day, after eating for eight to ten days for an adult. No precautions are necessary as regards exercise or diet. The course may be repeated in 10 days and then several stool examinations are made, at least three to four and then monthly thereafter for six months. If the cysts are not eliminated with two courses of chiniofon, carbarsone may be tried, one capsule (4 gr.) twice a day for 10 days and repeat this course in 10 days. Vioform is rarely successful in cases where chiniofon and carbarsone have failed.

Treatment of Patients With Severe Symptoms of Amebiasis: Bed rest is most essential for patients with diarrhea and if the bowel movements exceed six to eight per day, one grain of emetine hydrochloride is given subcutaneously, once per day until the diarrheal symptoms have subsided (which is usually four to six days) not to exceed 12 grains and then give chiniofon as already advised. But do not give emetine in the presence of myocarditis or valvular disease of the heart. In such cases give chiniofon alone. If chiniofon fails to clear the stools of cysts then try carbarsone and then vioform as already advised.

Emetine hydrochloride is the drug per se in the treatment of liver or lung abscesses. Give one grain subcutaneously each day for not more than twelve days.

What Is Being Done About Selectees With Venereal Disease

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When the Selective Service program started, it was determined by the United States Army, Selective Service System, and the United States Public Health Service that it was the responsibility of state and local health agencies to provide necessary follow-up and treatment of selectees rejected because of venereal diseases. This decision was a challenge as well as an opportunity to health officials in Mississippi. It was a challenge because it would tax present facilities for follow-up and treatment of such rejected individuals in addition to the thousands already in clinics. It was an opportunity in that it gave the health departments a new avenue of approach in case finding in the group which is most likely to have infectious venereal disease. In addition, it was among the greatest opportunities of public health workers to contribute to the war effort in preparing men for military service who would otherwise not be inducted into service.

Until recently, the program of locating and placing selectees under treatment by local health departments failed to keep pace with the rate of deferment. The reasons for this were as follows:

(a) There was not the proper coördination and coöperation between the Selective Service on the one hand, and the State Board of Health and county health departments on the other. This was primarily because of certain regulations of the Selective Service and failure of many in the Selective Service and health agencies to understand the seriousness of the problem.

(b) Clinic facilities were available in only sixty-two of the eighty-two counties for the treatment of venereal diseases and in many of the counties where clinics were available, they were already full and overflowing and were far removed from many patients.

(c) Admissions to clinics had been on a referral basis for all types of cases since the beginning of the venereal disease control program four years ago. This referral was on the basis of indigency and by private physicians. Some time was required to convince health officers and private physicians that with this particular group it was necessary to require all selectees rejected because of venereal disease to report to clinics for treatment unless they were being treated by private physicians. In fact, for several months an attempt was made by health departments to place these selectees under treatment by inviting them to the clinics or requesting that they get under care of physicians. This caused many complications, much work, and few results. Many selectees who were thought to be in the hands of private physicians were found later to have lapsed treatment or not to have ever reported to a physician.

Only in the past few months has rapid progress been made in placing selectees under treatment and keeping them there.

In order for rejected registants to be placed under treatment it was necessary for the full-time health officers to be given the essential information as to identity, address, and diagnosis. For many months after the program started this information was slow in getting to health officers because of the methods of handling such information. At that time health officers had no official status with the Selective Service System. A regulation of the system requiring that cases of communicable disease found through selectee examination be reported to health officers by local boards was not followed for the most part. Consequently, health officers only received information as to diagnosed cases of venereal disease when is was relayed by the State Hygienic Laboratory through the Division of Preventable Disease Control. This was done only after a second positive Wassermann was secured, frequently many weeks after the first test.

Recent developments have led to very close coöperation between the State Board of Health, State Selective Service System, county health departments, and local Selective Service boards, implementing the program of placing these individuals under treatment. A few months ago, through an agreement between the State Board of Health and the Selective Service System, all health officers were appointed as additional examiners in charge of the laboratory section. This made it possible for the local boards to require selectees whose first blood test or gonorrheal smear was positive to report to the health officer as additional examiner. Also, in most counties the second blood tests on those whose first tests were positive are now being done in the health department clinics. Through this method the registrant was placed in contact with the health personnel without these workers having to travel thousands of miles to locate these cases, as had often been done without results.

In addition to the above, regulations were recently passed by the State Board of Health giving the health officer ample authority to require treatment and prescribing how this could be done. At present the plan of placing rejected registrants under treatment and keeping them there through joint action of local boards and county health officers is working extremely well. In many of the counties, 80 to 90 per cent of rejected registrants are under treatment but in others, only 30 to 50 per cent are under treatment. The variation as to percentage under treatment as present can be explained only by the relative diligence and degree of coöperation with which health officers and local boards have gone about the job. Health officers should understand that, at present at least, treating these registrants to prepare them for military service at the earliest possible moment is the Number One venereal disease control job and that the United States Public Health Service and the State Board of Health expect it to be done without delay.

Early in 1942, 24 additional clinics were established in 19 part-time counties specifically for providing treatment for this group of patients. In this program, the State Board of Health supplies necessary funds, personnel, and equipment; local governmental or other agencies supply clinic quarters and utilities, and local private physicians operate the clinics on an hourly basis. Before this program was started in the part-time counties, it was found that not more than five per cent of rejected registrants were under care of private physicians and in most instances treatment being received through this method was irregular and very inadequate. The private physicians, local boards, boards of supervisors, and all others concerned have coöperated wholeheartedly in this program.

Up to April 15 there were 6217 registrants with syphilis under treatment in the 237 clinics of the state, of which 5884 were colored and 333 were white. It is estimated that an additional 1000 cases have been placed under treatment since that time, making a total of more than 7000 of those rejected because of syphilis now under treatment in Mississippi clinics. An estimated 1000 cases have moved from their home counties to other counties or states making them difficult to locate and to place under treatment.

Most of the 1430 cases of gonorrhea rejected have been treated and referred to local boards for reclassification. About half of these have been treated in clinics and many others by private physicians.

Under the present method of operation and rate of placing these cases under treatment, it is felt that by July 1, 1942, between 80 and 90 per cent of registrants rejected because of venereal disease will be under treatment and that a rapidly increasing number can be referred to local boards by health officers, after adequate treatment, for reclassification.

Private physicians are urged to treat as many of these cases as possible. In case such is done, it is necessary that the local health officer be notified each week as to date and kind and dosage of treatment given so an official record of treatment may be available when the case is ready to be referred to local boards. If a physician is treating a selectee and fails to notify the health officer each week as to the treatment, the case must be followed by the health department for it is the health officer's job to see that adequate treatment is being given.

DISCUSSION

Dr. Guy Post (Clarksdale): It is true that the venereal disease problem of the Selective Service System of Mississippi was both a challenge and an opportunity to the state and local health departments. In fact, the health agencies were glad to have an opportunity to have had a part, at first, in the defense; and, later, in the war effort. All health agencies have met the challenge to the extent of their abilities. The local health departments have accepted the additional responsibilities without a word of protest. In fact, they were pleased to accelerate their venereal disease programs, which had been in operation for some time. As a matter of fact, many more selectees would have been rejected on serological tests for syphilis if the splendid venereal disease programs had not already been in operation for three or more years in the organized counties.

I believe the lack of coördination rather than the lack of coöperation was responsible for the poor results in early phases of the program. To those local directors who took the war situation seriously and who saw a chance to increase the effectiveness of their venereal disease programs, no time was lost in getting the selectees under treatment. That much was accomplished the records will attest.

The appointment of the local health officers as additional medical examiners in charge of the laboratory sections has done more to coördinate the Selective Service venereal disease program than anything that it has done since its organization. If one may judge the rest of the state in terms of Coahoma County, it may be said that there is 100 per cent coöperation between the State Selective Service System, the State Board of Health, the local Selective Service boards, and the county health departments.

The establishment of venereal disease clinics in the part time counties has stepped up the state venereal disease control program and it will very favorably affect the Selective Service System. However, many of us in the organized counties had been treating selectees from the unorganized counties for venereal diseases for many months.

The health agencies of the state may be counted upon to do their part, not only in venereal disease programs, but also in all other phases of the war effort.

Dr. W. H. Weeks (Jackson): To find 11,847 cases of syphilis in examining 73,553 men of all ages would be serious condition, but when we find 11,847 cases of syphilis in examining 73 553 young men between the ages of 21 and 35 years, it makes the situation much more serious.

In this age group the disease is likely in its most infectious stage and would certainly be during the most prolific and promiscuous period of the hosts' lives, which would make the potential danger far greater.

Dr. Gray has told you that from 30 to 90 per cent of the venereal disease selectees in the state are now under treatment. I would like to present an approximate percentage in the counties where I am working. In Grenada we have 92% of all rejected selectees in that county under treatment, Quitman 86%, Yalobusha 94%, Leake 95%, Newton 92%, Scott 94%, Attala 96%, Oktibbeha 94%, Carroll 92%. Now this represents the percentage of the entire number of rejected selectees in the counties. The only reason we do not have 100% of all that some have left the state and have not all so far been located. I am sure I am safe in saying that we have 100% of all those now living in the counties named under treatment. This has been accomplished by the hearty coöperation of the doctors, nurses, and the draft boards who have entered into this wholeheartedly and are still working at it. They are thoroughly sold on the idea that this is not the other fellow's war but it's our war and this is our part toward winning it. The trouble is we have just recently begun to try to locate and get under treatment selectees who were rejected in 1940 and 1941. They have had all this time to dislocate themselves. They have scattered to almost every state in the union and our main trouble is locating them. From now on we will be able to coördinate the efforts of the Selective Service and State Board of Health, and in this way will get practically one hundred per cent under treatment.

Tragedies even as horrible as war are not always devoid of good. Had it not been for this horrible war, we probably would not have had our attention so forcibly called to this dreaded disease, syphilis. Syphilis, at the rate it has been spreading unchecked for the last few years, will maim and kill more of our people than the Germans and Japs together.

As necessity is the mother of invention, so tragedy is often the cause of progress. In my opinion one of the most forward steps toward eradication of syphilis in the United States has been made with reference to the syphilitic selectees, namely compulsory treatment. No country has ever made much progress toward eradication of syphilis until it has resorted to intensive epidemiology and compulsory treatment. Now that we have compulsory treatment for the selectees, let's lose no time in extending this to all who have the disease.

Now let me make as strong a plea as I possibly can for a much more active program of epidemiology in our fight on this dread enemy.

While in Vanderbilt University Syphilis Clinic I got this brief history of 242 cases of early syphilis. The 242 cases of early syphilis had 783 family contacts; of these 783 family contacts, we found 719 and examined 565; in 565 examined we found 155 positive cases, 98 of which were early cases. These same 242 early cases had 294 sex contacts. We found 246 of them and examined 210; in 210 sex contacts we found 154 positive cases of syphilis, 139 of which were early cases.

	Number		Examined		Positive		Early Syphilis Found	
	Named	Accessible	No.	Per Cent	No.	Per Ccent Exam.	No.	Per Cent of Contacts Exam.
Family Contacts	783	719	565	78.7	155	27.4	98	17.3
Sexual Contacts	294	246	210	85.4	154	73.3	139	66.1
Total	1077	965	775	79.2	309	39.8	237	30.6

DR. H. R. HAYS (Jackson): Dr. Long and Dr. Gray brought us a splendid paper; it has brought to our mind—those of us who were in the last war—the very startling statistics that we were able to gain from the local boards in that World War No. 1. A great step has been made forward in the co-organization of the county health officer and the Selective Service boards, and I see a great advantage in getting these people under treatment, but I see also that as doctors we have a great obligation to our state. When we entered Germany in the World War No. 1, we found that our boys were being billeted in houses where venereal disease was rampant, because the Germany army, filthy as it was after defeat, had passed through the section and in almost every house left venereal disease, so that our army rate of infections ran way high. Something had to be done, so we called a council and examined all persons in those houses where our soldiers were billeted. We, as Mississippi doctors, must prepare to foster just such a program if we are going to get the depots of infection cleaned out so these people who are being treated now won't be reinfected. I say this because in my humble experience here in Jackson I had had five cases that I was sure were well, who came back with a reinfection of syphilis, so I say reinfected when I speak of syphilis.

Now if we can as citizens and as doctors support our board of health and get some system of treatment, we may expect to do something with this great advantage we have. Otherwise we will lapse as we did after World War No. 1, and we will have a clean-up to do after World War No. 2.

Dr. H. C. Ricks (Jackson): It has fallen to me to be responsible for the examination of blood symptoms and smears (venereal) submitted from this group of selectees. In has been my lot on different occasions to be asked for opinion concerning the infection or noninfection of certain individuals. As the laboratory representative I want to say this to you, we in the laboratory do not say that the individual has syphilis, just because he might have a positive serology. We say at least it is suspicious. Some men in this state, when a man comes in from a good family and says that he does not know he was ever infected but has a positive serology, begin to look around for a method of finding a negative serology. I do not say we have the best laboratory in the world, but it is fortunate that the army and Federal authorities and the Selective Service System have decided on one laboratory from which they will receive and acknowledge reports.

If you as representatives of these men, as health officers of their family physicians, if you go out looking for a negative blood test you can find it. A serious thing happened in my own experience with one of my very best friends. I think the man was honest when he said he had never had any infection. At that time the serology technique we were using was picking up only 59% of the known syphilis, and this man had a positive serology. We reported the result of the examination. I took the blood myself, sent it to his family physician and advised him to get the report, as we do not make reports to any one except physicians or the health officer who submits the examination to us. This physician took two specimens and sent them to different laboratories. They came back negative. He so advised the man, and in about 6 years the man was a G.P.I. and is today. So I warn you that if from a dependable laboratory you get positive serology on two successive occasions, my suggestion is to look very carefully into that thing before you tell the man there is no chance of his having syphilis. We do not say a man has syphilis if he is positive on the test, but we do say it is quite suspicious.

In our own laboratory for 5 years we have been running a coöperative project with the public service. With one of our tests we will run about .2 of 1% false positives, and we know that the test will pick up 86% of the known syphilis late and primary, and what have you. This is based on about 1500 specimens that have been submitted to us for examination. In our other tests we will pick up only about 72% of the known syphilis. During the five years this project has been underway we have not a single instance reported a false positive on those unknown specimens sent in by the public health service with that test, which is a competent fixation test. With that kind of record with the same blood doing the test each time, we think that is a fair percentage. So I warn you about telling a man he does not have syphilis, if you get a positive serology twice in succession just because he is from a good family, because such a person becomes infected just the same as others.

Dr. W. H. Anderson (Booneville): I wish to compliment the chairman of this program, for its being one of the best I ever attended. I also wish to say how much I appreciate the work of the State Board of Health. I made my own Wassermanns for a long while, but there are so many now I send the blood specimens to the State Board of Health, and I have never found anything more satisfactory. I appreciate the very fine work the State Board of Health is doing. I greatly appreciate having these guests today, and especially have I been interested in the paper on mental hygiene.

Dr. L. W. Long (Jackson): I have only one remark I want to make in closing. This program has started but it is going to take perseverance in continuing it. In this connection I want to tell a little story. There came up to us not long ago a question as to whether we were to have an invocation said at a certain meeting. We were discussing having the Baptist preacher to give this invocation, and in the discussion one man finally came forth with this remark, "Go ahead and get him; he has been praying for us for 25 years, he may hit the jackpot yet." If we continue to persevere, maybe we will hit the jackpot.

The Local Use of Sulfanilamide In Wounds and Cutaneous Diseases*

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HIGH LOCAL concentrations of one of the sulfonamides, sulfanilamide, was first used in 1937 by Sinclair and Barker[1] in treating certain cases in dental surgery. They used crushed sulfanilamide tablets in treatment of infected operative wounds of the mouth, certain extractions, compound fractures and osteomyelitis of the mandible. They reported good results in the prevention and treatment of those infections.

Jensen, Johnsrud and Nelson[2] in 1939 reported their series of compound fractures in which sulfanilamide implants were employed and in which no instances of primary infection occurred. The reduced incidence of all infections in this series was from 27% to 5%.

Since that time many reports have been made bearing out the fact that the sulfonamides are an inestimable adjunct to the armamentarium of the physician. It is strongly emphasized, however, that the sulfonamides cannot replace sound surgical principles, for as Joplin[11] says, "A little of the drug sprinkled indiscriminately here and there will not prevent or cure infection unless the underlying principles of thorough cleansing and débridement and good surgical judgment are exercised."

PREPARATION OF THE DRUG FOR LOCAL USE.

No elaborate methods of sterilization are needed. In contaminated and infected traumatic conditions it is believed by Crile[3] and others[4] that sulfanilamide as it comes from the manufacturer is sufficiently sterile for use and that further sterilization by autoclaving or by dry heat reduces the efficacy of the drug. However, for intraperitoneal application many surgeons[5,6,7,8,9] autoclave weighed amounts, usually two, four, five, and eight grams in stoppered test tubes for 15 minutes to one hour at 15 pounds pressure, or sterilize with dry heat. It is imperative that the powder be autoclaved in closed containers. Moisture absorbed from autoclaving hardens the drug and prevents it being removed from the containers and sprinkled over the surface. Dry heating the drug to 140° C. for 40 minutes to one hour does not alter the drug in any way. Heating to temperatures higher than 140° C. approaches the melting point of the drug which is 165° C. and therefore makes it useless. Ointments prepared for use as dressings in cutaneous infections are preferably prepared in an anhydrous base[4], although when used in certain secondarily infected dermatoses it may be incorporated in the ointment suitable to the particular condition. Sulfathiazole is most effective in a water in oil emulsion when the base was either chloresterinated petrolatum (aquaphor) or cod liver oil ointment. Sulfanilamide is also obtained in sterile ampoules for use locally; these are more expensive and difficulty is experienced in getting the drug out of them due to the small neck.

AMOUNT OF THE DRUG TO BE USED IN VARIOUS WOUNDS

In clean wounds the drug is sprinkled over the surface and along the suture line as prophylactic treatment against infection. Here it should be sterilized and small amounts used.

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*Read before the thirty-ninth semi-annual meeting of the Delta Medical Society, Rosedale, Miss., April 8, 1942.

In small wounds one to five grams are generally used, caution being exercised that wound closure is not interfered with by the amount of the drug. If the powder has not been weighed prior to operation a safe method is to measure the powder in a sterile one ounce medicine glass, each dram being equivalent to 2.5 grams of the drug. In more extensive wounds such as compound fractures, carbuncles and larger infected areas, as much as 20 grams have been used in adults[3] and proportionately smaller amounts for children. In the peritoneal cavity the amount employed should not exceed 15 gms. due to the danger of too high blood levels from peritoneal absorption. Distinction should be made between peritoneal cavity and abscess cavities within the peritoneum wherein a much larger amount can be used with safety. In appendiceal abscesses in which drains were used Long and Dees[4] and Thompson, Brabson, and Walker have used as much as 20 gms. Drainage decreases the effectiveness of the drug due to loss of total quantity along the drain. Estrin[6] is more conservative in peritonitis complicating appendicitis in using 3 to 6 gms. according to age. Determinations of quantity to be used in the individual peritoneum is made by using 175 mgm. per kilo of body weight[9] or an easier guide for dosage is to take eight per cent of the pounds of body weight in order to obtain the number of grams to be used in the average case where drainage is to be employed. Six per cent of body weight in grams gives the proper amount in cases in which drainage is not to be used. Ointments prepared from the drug and from sulfathiazole have varied in strengths from 5 to 25[12] per cent.

Rationale of Local Therapy

The rationale of the local application of the sulfonamide drugs is based upon the principle that the local concentration of the drug in the tissues is variously estimated to be from 10 to 100 times higher than that which can be obtained by systemic absorption. This comparatively huge concentration obtained locally is bactericidal for organisms more susceptible to sulfanilamide and bacteriostatic for staphlococcus aureus and Welch's bacilli and others. However, if staphylococcus aureus and Welch's bacilli are numerous, infection may occur.

Mode of Action

The mode of action of sulfanilamide locally is still theoretical. Certain definitives, however, are known. Very small amounts of peptone may greatly reduce the bacteriostatic and bactericidal effect of sulfanilamide and its derivatives. Locally the drug is acting in a medium which is favorable to the growth of the bacteria and unfavorable to the action of the drug, because tissues break down into a peptone-like substance. Although[13] there is more or less peptone in wounds the concentration of the drug in the localized area exerts a greater effect and inhibits the growth of organisms. Fox[18] found that increased oxygen availability increased the bacteriostatic action of sulfanilamide, whereas reducing agent decreased its effect. Main, Shinn and Mellon showed that sulfanilamide has an anticatalase activity which prevents the destruction of the hydrogen peroxide produced by the organisms. This allows the hydrogen peroxide to reach a high enough concentration to prove toxic to the organisms. Mellon, Locke and Shinn give added support to the oxidative-enzymatic theory of the mode of action of sulfanilamide. They find that the free amino group when incompletely oxidized is responsible for the anticatalase activity exhibited by the drug. The fact that the streptococcus, pneumococcus, gonococcus, meningococcus, and bacillus coli organisms all produce hydrogen peroxide is given as the reason for the wide therapeutic applicability of the drug. They suggest that staphylococci lesions are usually of a reducing nature and do not allow for the oxidation of sulfanilamide to products exhibiting anti-enzymatic activity. It is to be noted that the staphylococci are eradicated with greater difficulty than the streptococci. It is also noted that wounds in which the surgeon has employed hydrogen peroxide for cleansing revealed a very small incidence of infection following sulfanilamide implants.

When introduced locally sulfanilamide dissolves completely in 24 hours[14]; sulfathiazole persists for five days and sulfapyridine for seven days. Absorption continues throughout 48 hours with high concentrations maintained during that time. It is during this time that the bacteriostatic effect of the drug allows the defense mechanism of the body to destroy the pathogens.

Systemic Absorption from Local Implants

Absorption depends on surface area on which the drug is applied, and the number of blood vessels. There is scant evidence to support the idea that systemic absorption of the drug from local implants accounts for the favorable action of the drug. Estimations on carefully controlled cases reveal that the level of concentration in the blood in mgms. per cent is equal to one-fifth the number of grams implanted in the wound. Thus, if in a compound fracture 15 grams were used as an implant, the blood concentration would be expected to rise to 3 mgms. per cent[3]. Concentrations at this low level in the blood do not account for favorable effects noted in compound fractures. When sulfanilamide is introduced into the peritoneal cavity, blood concentrations rise to much higher levels. It is estimated that the concentration in the blood in mgms. per cent will be the same as that number of grams implanted in the peritoneum[3]. Thus, if 15 grams were sprinkled into the peritoneal cavity the blood concentration would rise to 15 mgms. per cent. In the peritoneum, absorption is rapid, reaches its height of concentration in the blood in 12-18 hours and falls rapidly.

REACTION ON TISSUE OF WOUND

Local injury to tissue is slight, healing of wounds is not delayed, and scarring is not increased. In earlier work Bricker and Graham[15] found on dogs that oral administration seriously inhibited wound healing. Glynn[14] has recently published interesting work showing in local therapy that there was no histologic evidence to prove that any of the sulfonamides (sulfadiazine was not included) inhibited the formation of collagen or precollagen fibers or the development of new blood vessels. Likewise, the macrophage response did not seem to be impaired though there was evidence of diminished phagocytosis in the treated wounds. In counting the fibroblasts at 5-7-14 days no significant difference was found on comparing wounds treated with sulfanilamide and the controls. In short, healing was not inhibited by sulfanilamide; and very slight inhibition of healing was noted with sulfathiazole and sulfapyridine. He found, however, that sulfanilamide had slight but definite toxic effect on striped muscle; this toxicity was lighter with sulfapyridine, and was not present where sulfathiazole was employed. He suggested that sulfathiazole be used where a minimum of scarring was desirable such as on the face, forearms, hands, etc.

In the peritoneum[7,10] no adhesions were noted in cases of peritonitis operated on later for removal of appendiceal stump. Likewise no adhesions were noted in the peritoneum of several cases coming to autopsy from causes other than that which necessitated the peritoneal implant. From this it is suggested that sulfanilamide inhibits the formation of adhesions in the peritoneum. Accumulations of serum noted in a number of wounds do not indicate this to interfere seriously with wound healing. Serum accumulations were not observed in those clean wounds where sulfanilamide was used prophylactically in small amounts.

WOUNDS IN WHICH SULFANILAMIDE IS USED

Possibly with the greatest success the drug is used on wounds occurring without asepsis or those grossly contaminated in which careful cleansing and débridement is done. On sterile surgical wounds the powder is sprinkled as a prophylactic against infection. On infected surgical wounds it is used with success both as implants and sprinkled over the surface of the wound and along the suture line. In burns where the skin is not destroyed over too great an area it is beneficial to inhibit the growth of organisms, and has shown no tendency to inhibit epithelialization[3]. It is used in mastoid cavities, and closed without drainage[20]; decubitus ulcers[16]; preparatory to intestinal resection[17]; in carbuncles, compound fractures, pilonidal cysts, ischiorectal abscesses and in many of the coccoidal skin infections.

Sulfathiazole, rather than sulfanilamide, is used with more success in the pyogenic dermatoses[19], other conditions complicated by secondary pyogenic infection and a few conditions unrelated to the pyodermias. The healing of the skin diseases is hastened; it is painless in application in either an ointment or as a powder.

When placed in wounds immediately, sulfanilamide prolongs the safe period for surgical intervention and for complete surgical débridement.

CONCLUSION

1. Local chemotherapy with sulfanilamide is a valuable adjunct to careful surgical cleansing and débridement.

2. The preparation, dosage, rationale, mode of action, systemic absorption, relative freedom from damaging effect on tissues and wounds in which the drug is used have been discussed.

3. The use of sulfathiazole is more successful in coccoidal dermatoses than sulfanilamide.

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Management of Middle Ear Infections*

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IN PRESENTING A paper on this subject I do not propose to give you a review of the literature on the management of middle ear infections, but hope that I may be able to give you some practical observations from fifteen years' experience in specialty practice including a large number of these cases.

I shall not give you a statistical report, but shall attempt to give you some conclusions arrived at from the treatment, and the results attained, in reviewing these cases.

In delimiting this subject I shall use the simple classifications given by Logan Turner: acute salpingitis, acute non-suppurative otitis media, acute purulent otitis media.

The middle ear cleft includes the eustachian tube, tympanic cavity, attic, aditus, antrum and air cells. It is an air-containing space which in fetal life is formed by the upward and backward growth into the temporal bone of a hollow bud of mucosa from the nasopharynx, hence its quick response to conditions which prevail in the nose and nasopharynx. Since the principal function of the nose is aeration, aerofiltration and aerohydration, any alternation of the nose that upsets this function quickly affects the middle area and its ramifications.

ACUTE SALPINGITIS

Since the principal function of the eustachian tube is to equalize the pressure on the ear drum, it follows that a patent eustachian tube is necessary for a normal functioning ear. As soon as the eustachian tube becomes closed or obstructed the air in the middle ear is absorbed and the ear drum is subjected to a positive pressure from the outside. This is attended by a chain of very unpleasant symptoms. First there is usually an itching or burning symptom in one side of the nasopharynx; then a popping sensation with the eustachian tube perhaps alternately opening and closing. Now and then there is a shooting pain referred to the ear. When the tube closes entirely there is a stuffiness, slight deafness, low pitched ringing in the ear and a sensation of one's own voice being too loud, called autophony. There may be little or no pain or there may be lancinating or shooting pains, or there may be a dead ache. On examination of the ear drum one may see very little, or one may see a dullness of the drum head with slight injection. Examination of the nose usually shows a conjestion of the whole nares on that side, and if one examines the nasopharynx by posterior rhinoscopy the orifice of the tube is swollen and congested.

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Treatment of this condition in its incipiency is best carried out by shrinkage of the nose with isotonic ephedrine solutions instilled or sprayed in the nose, neosynephrin, benzedrine, or very weak solutions of cocaine and adrenalin, followed by the mouth of the tube through the nares with I:I000 adrenalin, argyrol 10%, silver nitrate 1%, or instillation into the nasopharynx of a solution containing 1% guiacol with menthol and camphor in mineral oil. If the tube is entirely closed the patient is often very grateful for gentle inflation. But if the nose is discharged profusely I would never advise inflation since it is very easy to force purulent material into the middle ear and do the condition more harm than good. It has been my policy to be very sparing with inflation early in these cases. If the patient is warned about blowing the nose, and the nares can be kept open to aerate the mouth of the tube, most of these cases will clear up without progressing and without inflation. Putting the patient to bed, giving lots of fluids, a saline laxative, and a vaporizer are very helpful adjuncts.

Acute Non-Suppurative Otitis Media

If the condition just described prevails for several hours with complete closure of the eustachian tube, whether it be from inflammatory swelling of the tube itself, from inflammation and swelling of adenoid vegetations, or tumors in the nasopharynx, there is a transudation of fluid into the middle ear caused by negative pressure on the blood vessels of the middle ear. Or there may have been an early inflammatory transudate. The deafness is usually increased and pain is apt to be severe, although I have seen many cases with only a sense of dullness or heaviness of that side of the head. Pain is usually worse at night due to coaptation of surfaces of an inflamed eustachian tube and a relaxation of muscles in the reclining position. Examination of the ear drum may show any change from a slight dullness of the drum head to a loss of all landmarks when the middle ear is completely filled with fluid. There may be some retraction of the handle of the malleus with mild or marked congestion of the blood vessels. Usually there is some redness which may be quite marked. Treatment of this condition, if there is no bulging of the drum or fluid level as seen through the drum, is the same as that for acute salpingitis except that I always use ear drops for pain and a good isotonic nose drop for aeration. For ten years I have used most often a prescription of cresatin or metacresylacetate and oleum olivae equal parts instilled into the ear warm and repeated as necessary or every 4 hours. I have tried auralgan which is 5% antipyrine in an anhydrous glycerin base, 5 to 10% phenol in glycerine, and various prescriptions containing cocaine and adrenalin, but have found none of them as satisfactory as metacresylacetate (cesatin) and olive oil.

If there is any bulging of the drum I do a paracentesis, if the symptoms are severe I do a paracentesis in the absence of any bulging. I have never had a surgically opened ear drum fail to close if the patient returned for follow-up until dismissed. I reserve inflation in these cases for the convalesence after all acute symptoms have subsided.

Acute Purulent Otitis Media

Acute purulent otitis media may or may not go on to perforation unless surgically interfered with, and this is used by some authors to subdivide cases into two groups: acute simplex, and acute perforata. As to etiology the most common etiology is the common cold, particularly a cold which occurs during or as the initial stage in influenza. In the infectious diseases of childhood, especially measles and scarlet fever, bathing, syringing the nose and nasal packs are used to control epistaxis or after nasal operations, injuries to the drumhead from external causes, or during the course of any infectious disease such as pneumonia or meningitis. Recurrent attacks of tonsillitis in children with adenoid vegetations are particularly prone to be complicated by middle ear infection. The most common infecting organism is some strain of streptococcus, the virus of influenza, pneumococcus, staphylococcus or any of the other secondary invaders of the common cold in the order named. The most frequent and most serious offender is streptococcus hemolyticus. Middle ear infections rarely remain primary, but soon become mixed infections.

The most predominant symptom of acute purulent otitis media is pain. This is usually severe and may be boring or pulsating in the ear or may radiate. Deafness may be slight or marked. Fever is usually slight in adults, but may be very high in children. The pulse is usually fast, and more accelerated than the temperature would indicate. On examination of the ear drum there is variable injection up to an intense redness of the entire drum. There is usually some bulging of the drum which may be in Shrapnell's area, posteriorly inferiorly, or may bulge the whole drum with the attachment of the malleus simply showing as a dimpling. If the process has been slow the drum may be grayish and thickened with little bulging.

Treatment of these cases depends on their severity. Even the otologist cannot be sure when he opens the ear drum whether the fluid contents of the middle ear will be catarrhal or purulent. He may have some idea from the severity of the symptoms. Some of these cases will clear up by attaining nasal aeration and ear drops—my preference again being cresatin and olive oil. If in doubt open the drum. If there is any bulging of the drumhead I always do a paracentesis. If the onset has been very rapid and fulminating I may do a stab paracentesis, but in most cases I make a broader incision in the posterior inferior quadrant. In adults I always make a broader incision than I do in infants and younger children. After incising the drum I put the patient on cresatin and olive oil to be dropped in the ear every 4 hours and prescribe an isotonic nose drop to be used three times daily. If there is any mastoid tenderness I prefer ice early and heat perhaps after 48 to 72 hours. I want the patient to return on the second day for examination. If there is any fever or acceleration of the pulse, mastoid tenderness, continuing pain, or marked deafness I put the patient on one of the sulfonamides. Neoprontosil by mouth or sulfanilamide are my first choice, and if the patient does not show some improvement within another two days, I switch to sulfathiazole, or sulfadiazene. I continue the sulfonamides for at least five days.

Good drainage of the middle ear is absolutely a sine qua non to an uncomplicated recovery from purulent otitis media. In cases that showed mastoid tenderness and threatened to become surgical, I have done as many as five paracenteses of the same drum during one illness.

I never advise irrigation of a discharging ear. I use an oily instillation during the first week or so to keep the secretion thin so that it will not clog up the canal, and instruct the patient on how to clean out the secretion once daily with cotton swabs. After about two weeks if the discharge still persists I shift over to a boric acid alcohol instillation to be used twice daily. After the discharge has ceased and the paracentesis has completely closed I inflate the ear gently twice weekly for a few times.

I require all cases of acute purulent otitis media to return for treatment until dismissed. I explain the likelihood of complications and the seriousness of the infection on future hearing, and most of them are perfectly willing to coöperate.

There were only two surgical mastoids which came to operation in the one hundred cases reviewed in preparing this paper.

For the past two months I have made it routine on every case of middle ear infection requiring paracentesis to give one of the sulfonamides, except in infants. I request the patient to return on the second or third day so that I can check the reaction to the drug and the clinical response, and if it seems indicated check the blood picture. I am convinced that this routine shortens the duration of disability, shortens the time of a discharging ear, and lessens the incidence of complications.

DISCUSSION

DR. F. F. RILEY (Meridian)—I wish to ask Dr. Hamrick in regard to infants, if he uses any form of anesthetic in doing a paracentesis? The greatest fault I find in treatment for children, is keeping the ear clean, especially in small children.

Dr. Hamrick: No, I rarely resort to general anesthesia in infants.

Dr. Riley: I understand that you do not give the sulfonamide drugs to infants?

Dr. Hamrick: I do not give them routinely to children.

Dr. Riley: I have enjoyed Dr. Hamrick's paper very much.

Dr. Hamrick: I find the impetigo quite a problem in otitis media. It is very hard to get a mother to cleanse an ear diligently. I realize that the drying out of the ear after irrigation is the thing of prime importance. However, I did not mean to leave the impression that I do not give sulfonamide drugs to infants, I do give them, but not routinely.

Last night I read an article by one of our best men who is in Minnesota in which he states that he sees no lowering of the incidence of mastoiditis since the use of sulfa drugs. The reason I have to offer for this is that men in the large city hospitals do not see these cases as early as we do in the small towns. They do not go to the hospital for relief until the case is complicated. We see more cases in the early stage. I know for a fact that the incidence has been lessened in my practice since the sulfa drugs have been available.

Pediatric Surgery*

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IN CONSIDERING pediatric surgery, one is immediately confronted with the vastness of the subject. The purpose of this paper is to point out what we consider the generalities of pediatric surgery with a short discussion of some of the most common as the most important diseases peculiar to young life.

One has to observe only a few surgical cases in the young before he realizes that there exists a great variation in pediatric surgery and surgery in general. Surgical disease in young children often does not manifest itself as in the adult, and the practitioner must appreciate this difference and be able to interpret it correctly. He must realize that not are certain diseases peculiar to certain periods of growth, but that a given disease may vary its manifestation as it is observed at different stages of the child's physical development. The variation from surgery in general is greatest in infancy and becomes progressively less as puberty is reached. In early life the cellular activity is much greater than in adults, and there is more nutritional demand by the less stable organism; also, it must be remembered that the various degenerative changes of adult life are not encountered in the young; therefore, the differential diagnosis, although difficult, is more specific because the complicating symptoms can usually be attributed to the differences in the manifestations of the specific disease.

The activity of growth just mentioned renders children more liable to a violent reaction from slight cause, makes disease sudden in its onset, intense in its symptoms, and often short in its course. There is little tendency toward limitation and localization of symptoms. The younger the child, the more striking it is that the expression of disease is more constitutional than focal. The upset stomach of an infant is often a prodromal symptom of an acute infection; extremely high fever, sometimes accompanied by convulsions, is frequently seen in a non-specific gastro-intestinal upset. In this connection, it should be kept in mind that during the first two months of life a convulsive seizure is of consequence because it usually means a gross injury or infection in the central nervous system; whereas, after the second or third months and until the end of infancy the nervous system is most irritable, and a convulsive seizure is fairly common and of less significance. Fever may be out of proportion to the severity of the disease as compared with that seen in older children and adults.

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Symptoms in children, especially those referring to acute abdominal conditions, may not be and most frequently are not surgical. Furthermore, the condition may not be intraabdominal at all. A child with acute pain in the abdomen should always be examined very carefully with the stethoscope over the chest. The onset of some of the acute diseases, such as pneumonia, poliomyelitis, infectious jaundice, pyelitis, and acute Bright's disease, may be characterized by pain in the abdomen and vomiting.

The preoperative preparation of an infant or young child calls for the coöperation of the abilities of the pediatrician and surgeon to bring the little patient's general condition into the best possible state before operation. An abundance of tissue fluids is necessary preoperatively for every patient, whether infant, child, or adult, and this should be supplied before rushing the child to surgery.

Opiates given to infants at any time must be carefully directed in each individual case. In children, idiosyncrasies to opiates are not uncommon and may lead to difficulties, and marked depressing effects may follow an overdose.

The anesthesia problem in surgery of critically sick infants and young children demands special consideration as compared to that for adults. A discussion of the endless varieties of basal and general anesthetic preparations offered the medical profession covers a broad field. Anesthetics should be administered by well-trained anesthetists, regardless of the age of the patient. If such service is desirable in any field of surgery, it is doubly advisable for infants. The margin of safety of any anesthetic decreases greatly at the extremes of life.

Local infiltration anesthesia, because of its safety, is the anesthetic of choice for infants, but its use is limited because of the inability of the babies to coöperate with the surgeon. In intra-abdominal infant surgery we have reached the conclusion that we get better relaxation and exposure and that the patients suffer less shock and have a better convalescence with the combined use of local infiltration and drop ether. Adams and Lundy of the Mayo Clinic have pointed out that for infants and children of two or three years of age ether administered by the drop method is most suitable. For older children, anesthesia may be induced with nitrous oxide and oxygen, after which it may be maintained with ether, administered either by the open drop method or the gas machine. The younger the child, the greater is the indication for the drop method of administering ether in preference to the closed method. The resistance to breathing through the gas machine, together with the weaker respiratory muscles and the small respiratory passages of young children, may contraindicate use of the gas machine.

Another preoperative preparation which should be attended to in pediatric surgery is the assurance of a well-heated operating room. This, as well as local heat before, during, and after operation, is of more importance than for adults because there is greater heat radiation loss in infants. For example, the surface area of a nine-pound infant is proportionately twice as great as that of a 150-pound adult, and thus offers twice the heat radiation loss.

Finally, the surgical nurse must be instructed to have in hand smaller sponges and intraabdominal packs, finer ligature and suture materials; and the surgeon's armamentarium must have been equipped with instruments suitable for infant rather than adult surgery.

During the actual performance of the operation on infants, it is well to remember, as has been previously mentioned, they may become alarmingly sick in a very short time and may even die very quickly. Fortunately, they may rally with the same rapidity. Their life mechanism is very unstable, and the surgeon is wise to balance the operative procedure with their lowest resistance rather than their greatest reserve. He must keep in mind the advantage of multiple stage operations, and in certain types of surgery plan such ahead as a matter of routine. He must accustom himself to work through a smaller but carefully chosen incision and refrain from making an adult slash in an infant abdomen. He must be more watchful of hemorrhage and must not compare blood loss of an infant to that of an adult. He must remember, instead, that one cubic centimeter of blood loss in a nine-pound infant is equivalent to 18 cc. of blood loss in a 150-pound adult. Thus an ounce of blood loss in such a baby is equivalent to a pint in an adult. Manipulation within the tiny peritoneal cavity must be done with even more gentleness than when dealing with an adult. The careless rough surgery which in adults results in a stormy convalescence may often contribute to the death of an infant.

The postoperative care of infants and children obviously demands greater watchfulness of both surgeon and nurse than is required in the care of intelligent adults. Sustained efforts must be made to maintain the confidence previously gained as an aid in aftercare of the young child. Again, the ability of a pediatrician is necessary to conduct properly the infant feeding program. An adequate fluid intake must again be established, and this problem differs from that of adults because infants cannot coöperate with the fluid-forcing régime. To offset this, gavage may be more easily given non-vomiting infants than adults. Venoclysis, so easily administered to vomiting or non-coöperating adults, is not practicable for vomiting infants. Proctoclysis likewise is more unsatisfactory in infants than in adults because the babies more often expel rectal fluids; thus, when vomiting interdicts fluids by gavage and proctoclysis is expelled, hypodermoclysis, the least pleasant of all fluid-forcing methods, must be resorted to more frequently in infants and children. Here, added caution is indicated in infants to prevent overdistention and subsequent sloughing of the skin which would not be tolerated by conscious adults. Isotonic glucose (5 per cent) rather than oft-repeated normal saline should be used to prevent saline edema.

Transfusions are of equal value in surgical care of infants and adults, but their performance may be made difficult in the former. Exposure of the tiny veins by dissection is more frequently found necessary in infants.

With the above considerations of the generalities of pediatric surgery, some of the more common as well as the more important surgical diseases peculiar to young life will be briefly discussed.

CONGENITAL ANOMALIES

As an individual begins his journey through life, a congenital anomaly is usually the first abnormality that may cause him to have to resort to a surgical operation. A large New York hospital reported an incidence of 2.61% of congenital anomaly in 22,500 births. We feel that a large part of these conditions should come under the heads of various surgical specialities other than that of general surgery. The practitioner should recognize them early and seek consultation, because as a general rule early correction gives the best results.

Of the gastrointestinal conditions, the obstructive lesions obviously demand the most immediate attention. Congenital hypertrophic pyloric stenosis will be discussed separately later in this paper. Babies with intestinal and colonic atresia always have symptoms on the first day of life. During or after nursing, there is vomiting which becomes progressivly more frequent and more intense as subsequent feedings are taken. The vomitus always contains bile as atresias above the papilla of Vater are very rare. Persistent vomiting is usually the symptom which leads to hospitalization, and any child who continues to vomit during the first day or two while being fed a normal amount of breast milk or a reasonable formula should be investigated by roentgenography for intestinal obstruction. The character and size of the stools are of some importance but may be misleading. The failure to find cornified epithelial cells in the first forty-eight hours of life or the failure to find milk curds at a later date is of great significance. Surgical intervention offers the only hope, but the mortality for operative procedures in these conditions is extremely high.

Imperforate anus is the easiest of obstructive conditions to recognize; however, the type of corrective procedure indicated is more difficult to decide upon. If only a thin membrane is present, a stab wound through it will suffice; however, if the blind end of the rectum has been arrested high above the anus the condition may require a preliminary colostomy. If one cannot determine the distance from the blind pouch to the surface, the x-ray often helps. By placing the baby in an inverted position for a few minutes and taking a lateral and anterior and posterior view, the gas will rise and indicate the caudal extent of the rectal pouch. This point recently was of great aid to us in a ten-day-old baby with an imperfect anus who had a very small fecal fistulous tract which opened at the scrotal surface of the shaft of the penis. The gas shadow revealed the pouch to end approximately two centimeters from the external surface. An anaplasty proved successful in this particular case.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS

Congenital hypertrophic pyloric stenosis occurs frequently enough always to be an interesting subject for study, and every physician should have a clear understanding of the clinical picture and the proper treatment. The etiology of this condition is still unknown, neither is it understood why it should be four to seven times more common in boys than in girls and frequently in the first child of a family.

The clinical picture in this condition is usually clear cut but as in all conditions in medicine may be atypical. The characteristic symptoms of projectile vomiting, loss of weight, scanty urine, scanty stools, visible gastric peristaltic waves, and a palpable pyloric tumor are quite constant. The last named symptom is one in which there has been considerable controversy. In infants of two to five weeks of age, vomiting, which is always the first symptom of this condition followed in a short time by the other symptom mentioned above, should make the diagnosis of pyloric stenosis highly probable.

The Fredet-Rammstedt operation for this condition has proved itself so successful that it now is almost universally adopted as the method of treatment. We regard the previously discussed preoperative preparation of these cases as one of the most important factors in the handling of these patients.

It is not our purpose to discuss a great deal of operative technique but we would like to stress the importance of division of all the constructing fibers. In our small series of ten cases in which we did not have a death, one case required the second operation because this was not done. In dividing the fibers at the duodenal end, great care is necessary to avoid opening the mucosa. Should this accident occur, it usually can be closed with a single suture and peritonitis will rarely follow.It is very important to recognize the accident because failure to do so would result fatally.

INTUSSUSCEPTION

Intussusception is one of the most important surgical emergencies in infancy and early childhood. The generally high mortality rate reported in the literature indicates the need for more widespread knowledge of the condition and its treatment. Reduction of these death rates in the future must depend not only upon the surgeon's skill in operative technique, but also upon the recognition of cases by the pediatrician and general practitioner within a period of twenty-four hours when the prognosis is still favorable. The condition occurs more often in boys than in girls and approximately seventy-five per cent are found between the third and eleventh month of life.

Babies with intussusception are usually very well nourished and are generally above the average in physical development. Recurrent colicky abdominal pain is an almost universal finding. Vomiting is an early symptom and may be repeated and severe. Blood stools occur in most cases when the condition is allowed to stand over fourteen hours. A palpable mass is present in a very large percentage of cases. If not palpable on abdominal examination alone, the bimanual examination will usually reveal it. At times, the apex of the intussusception can be felt on rectal examination, and if so, it imparts the impression of a nulliparous cervix to the examining finger. The palpating finger should always be examined for a bloody mucus having the appearance of currant jelly unmixed with feces. A surgical operation is almost always necessary. We observed one case that reduced itself while gently palpating the abdominal mass in a two-year-old child in whom the duration of illness was less than two hours.

It should be impressed that added surgical procedures such as appendectomy, removal of polyp, or diverticulum should never be done when not absolutely necessary. One of our cases had a gangrenous appendix that had to be removed, but routine removal is mentioned only to be condemned.

Chronic intussusception occurs rarely. We operated upon a case recently that had been ill ten days before admission. The onset was typical in an eleven-month-old well developed and well nourished baby boy. Intermittent vomiting and colicky pains persisted throughout the course of the illness. An abdominal mass was present, and the apex could be felt on rectal examination. At operation, the intussusception was of the iliocolonic type, and the meso-colon of the cecum and ascending colon was found to be as long as the average mesentery of an adult.

APPENDICITIS

That appendicitis is not confined to adult years but is a serious problem of infancy and childhood is evidenced by the numerous articles in the recent literature. The classical signs and symptoms of acute appendicitis are well known and do not need reviewing, but the diagnosis in infants and children may truly be a difficult matter. The accuracy of diagnosis which is so essential to successful treatment is difficult because these little patients' speechlessness, fright, unruliness, and lack of comprehension leaves one without the assistance which subjective symptoms would afford. The many gastro-intestinal complaints to which they may be subject should not blind one to the fact that appendicitis can exist. There is no more difficult diagnostic problem than that presented when the symptoms of accurate upper respiratory infection and sore throat are associated with abdominal pain in children.

Ladd pointed out that in the child the appendix is relatively larger, the mesentery may be relatively longer and less fixed than in the adult; consequently, the tenderness is likely to be more varied. Likewise, the omentum is less developed, is higher and shorter so there is less tendency for the appendix to be walled off.

Because of the frequency of abdominal pain arising from self-limited disease, the family often delays in summoning medical aid. This, with the difficulties in diagnosis and the failure of the appendix to wall off, results in late diagnosis which accounts for the very high percentage of perforations and general peritonitis seen in infants and young children. For a number of years it has been stressed and should continue to be stressed that the giving of a purgative increases the chances of perforation. Bower in a series of cases pointed out that perforation existed in one out of seven cases when a cathartic had been given, against one out of eighty cases when a cathartic had not been given.

Since the sulfonamides have been added to the armamentarium of physicians and surgeons, the literature has been flooded with its various uses. The intra-peritoneal use of the powdered sulfonamide as a method of direct attack on the problem of peritonitis was rapidly recognized by the abdominal surgeon. We feel it is greatly reducing the mortality in many of these cases. Just recently, we had two cases in children of ten years of age who had a diffuse peritonitis following a ruptured appendix who recovered and in our opinion would have died had not sulfathiazole powder been placed in the abdomen. We use sulfathiazole because of the experimental work done at the Mayo Clinic where it was shown that sulfathiazole is more slowly absorbed, that there is a moderate and prolonged polymorphonuclear leukocytic response, and the mononuclear phagocytes undergo an immediate and rapid increase which greatly enhances the local defense mechanism as compared with the other members of the group.

It has been our policy to operate as soon as the diagnosis of appendicitis is made, allowing time only for fluids to be replaced where indicated.

ACUTE HEMATOGENOUS OSTEOMYELITIS

Acute hematogenous osteomyelitis is one of the gravest afflictions of children and adolescence. The acuteness of the onset, the chronicity of its course and even the danger to life itself places it in the category of the diseases most dreaded by the surgeon. It has been our practice to adhere to the Orr technique in treatment of these cases. The introduction of the sulfonamides has not changed our general line of treatment except that it has been added to our therapy in the type case. We continue to institute as early and adequate drainage as possible.

CONCLUSION

We have by no means covered the field of pediatric surgery but have attempted to call to mind a few of the more important differences from surgery in adults and also a very brief discussion of a few of the conditions more commonly seen in surgery of the young.

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DISCUSSION

Dr. N. C. Womack (Jackson): The doctor has presented a very thorough study of surgical pediatrics. It is an interesting subject. In early infancy those conditions peculiar to infancy such as cleft palate, are conditions that we did not previously consider as pediatric surgery. In these conditions, the preparation of the patient and rapidity of the operation, the post- and preoperative treatment of the patient are very, very important. Of course the anesthetic is always important. We consider that the drop method of ether is probably still the method of choice in working on younger children. Now the difficulty in pediatric diagnosis or pediatric surgical diagnosis is that your patient has not the power to give you any information as to where the pain is or what he is suffering from. The examiner has to draw his own conclusions from the history of the case, which is always important from a laboratory procedure and from his own physical examination, and in certain conditions it is a difficult matter to know what the diagnosis is. So often we have to make it postoperative. The question of pediatric surgery of an acute type in the young is always difficult to handle. When we get a case with symptoms of an abdominal involvement, we always try to rule out appendicitis first, but that is difficult to do. We recently had a little boy four years old who came in with pain in the right abdomen, his blood count 13,000, and his poly count high. We could not be sure it was not appendicitis, but when we operated we found a congested appendiceal edematous condition which we were quick to see was purely an allergic manifestation. By the time we had the appendix out, practically all the edema had disappeared and the surgeon performed the appendectomy with my permission. The usual thing that causes abdominal pain in children in the order of their frequentcy is appendicitis, beginning pneumonia (which usually has a high fever but not very high blood count and usually clears itself up), allergy and intestinal parasites. The pain from intestinal parasites is usually around the navel, and there is no rigidity of the muscles in the area of the appendix. Many years ago I had occasion to see a young child who was going to be operated on for appendicitis. He had distended abdomen, temperature 104°, rapid pulse, and I asked the doctor to let me—it was my patient—get a blood count or picture and by the time he had finished his operation I had my report that the child had an acute malarial infection. The outcome of this case was not good. The little fellow got along all right for a few days, but on the ninth day he developed peritonitis, was operated on and relieved, but the fourteenth day he developed a secondary infection and was unable to make it. It always stuck in me very deeply that that mistake could have been prevented.

Of course the doctor has gone fully into the various pediatric procedures, such as hypertrophic stenosis and intussusception. The intussusception that is recognized in time to go in and pull the gut out easily, if in an infant under two years of age, there is such a profound shock that it is difficult for that baby to pull through. This is my usual experience so that I want to insist if there is any adhesion at all, if there is any inflammation of the gut, put in a tube. In those conditions where there is no sort of intussusception, if you have difficulty in relieving it, put in a tube. If you can't relieve it don't try to do a resection because the patient won't live through it. Your procedure is correct but you lose your patient. Put hot applications on it, but put your tube above and below, and trust in the Lord.

Again I want to repeat that the important thing besides a good surgeon—and they are always available—is adequate preoperative and adequate postoperative care, especially which children with high temperature. Give them fluid in every possible way. It is difficult to give a baby intravenous solution, but give it by rectum for they have to have their fluids. Handle the intestinal viscera as little as possible. As the doctor said, go in and get out.

Dr. Harvey F. Garrison, Jr., (Jackson): I want to compliment the Doctors Flynt on this very beautiful presentation. I certainly enjoyed it. I would like to mention two things that came to mind on this subject. One is that I believe strongly that hypodermoclysis given to a small boy in a badly dehydrated state is shocking, and a painful procedure, and I would like to make a plea that the fluid be given intravenously when it can be done. The other thing I would like to say is this: I believe that early intussusception can frequently be reduced without surgery simply by barium injections by rectum and manipulations through the abdominal wall. The little ones should be handled carefully and the doctor should be sure that the barium comes back into the ilium and none remains.

DR. FLYNT (closing discussion): I would like to say in regard to the malaria that we have seen quite a few cases which did have pain in the right lower quadrant, but the blood count has usually brought out the diagnosis. The cases which you find early can be reduced by barium enema, but if the barium is allowed to stay in any length of time, it causes danger of rupture.

The Doctor In A Changing World*

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THERE IS NEED for continued emphasis of the fact that society is a constantly changing thing—that change takes place through the agencies through which it expresses itself. Therefore, as we consider these institutions and agencies, we need continually to revaluate them and to reconsider the underlying concept which first of all brought these agencies into being, and which are still underlying. The factors of our society are many, and they are in a constant state of change. It is quite apparent to even the most casual observer that great changes have taken place during the last decade in the fields of government and business. It is imperative, therefore, that we revaluate more fully our medical objections in the light of the changes that have taken place.

There should be little necessity to spend much time in attempting to prove that society changes, for there is so much obvious proof of this. Our governmental organizations change with practically every meeting of Congress. Labor organizations have developed a power during recent years which almost equals the power of government. Monetary systems have changed substantially. Industry, science and transportation are ever-evolving, ever-changing.

The world has been growing smaller and smaller with the passing of the years. More efficient methods of transportation and communication have served to integrate whole nations and even whole hemispheres. There is no such thing today as isolation, in its strict sense, because of the influence of rapid travel and lightning communication.

Events in one country have a greater significance to other nations. The things that happen in Europe matter a great deal to the people of America.

It requires a degree of perspective to visualize in its entirety the changing world picture of the past few decades. During the last World War, Russia changed its form of government and embarked upon a social experiment that has influenced political thought in almost every nation in the world. In Italy, the government was taken over by the Fascists and we have seen Italy rise to a position of influence in world affairs, only to lose most of her prestige in recent months. The changes that have taken place in Germany have convulsed the entire world. Adolf Hitler has rekindled a spirit of intense nationalism in the German people and now menaces with his armies every concept of free government. In Mexico there were evidences that communism would become the prevailing form of government, when the Mexican government seized foreign oil and railroad interests and embarked upon a program of wealth-sharing. Today, however, that trend has evidently been halted, since Mexico has made reparations and has resumed diplomatic relations with Great Britain. In France, we have witnessed one of the major tragedies of history. Riddled with intrigue and traitorous statesmen, who succeeded in limiting the defense powers of the French nation. France is now in a state of subjection to her most bitter enemy. Even in England, mighty changes have taken place. Large estates have been taxed almost out of existence, the labor party has become almost incredibly powerful, and there are even hints that England is well on the road to socialism.

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There have been important transformations in the American social order as well. The state has assumed many new functions and now touches the life of the individual at a great many new points. We have tended to set aside the tradition of individual initative which was responsible for the founding and subsequent elevation of what has come to be termed "The American Way of Life."

Along with the changes in the world we note developments toward bureaucratic medicine. Corporations have entered the practice of medicine; public health programs have been formed, and government has pushed deeper and deeper into the medical field.

The present trend had its beginning in 1934 when the first agitation for social security appeared. In addition to its primary purpose of providing relief for the aged, it also considered the problem of medical care. By 1935, there were more than 430 organizations offering medical services on a contract basis; and more than 30 schemes for the prepayment of hospital care were on the economic horizon.

While we were still contemplating these changing trends and endeavoring to formulate principles to guide our reactions to them, the Wagner Health Bill was introduced, proposing government controlled insurance for material and medical services. The effect of this would be to place medicine in the hands of the government and to stifle medical progress. Fortunately the act was individualized practice of medicine.

Our concern respecting all of these changes is not that changes are taking place, but rather because of the effect the changes may have upon the lives of individuals. Society exists to render service to the individual and it is for such a purpose that medicine is organized as well. Naturally, the interests of medicine are secondary to those of society as a whole. It is not for us to oppose changes unless those changes are determined to society.

Since medicine is such a vital part of society, it is inevitable that it be affected by the influences which cause changes in other aspects of our social and economic order. The changes which have taken place in medical thought and practice have been greater during the past quarter of a century than in any other comparable period.

There are changed conditions under which the doctor of today is educated, lives and practices. There is a vast difference in the equipment of today compared to that of twenty-five years ago. There are more and better hospitals. There is a strong trend to specialization. There has been a marked tendency on the part of doctors to concentrate in the great centers of population, with the result that we find today a scarcity of rural doctors.

There has been great evolution in the practice of medicine during the past decade. To keep reasonably informed about the activities and accomplishments of our profession would be to view a record of achievements unsurpassed by any other group of workers in the world. The medical profession has produced elevated standards of medical education. The doctor today works with modern equipment and methods which were undreamed of a generation ago. Obstetrics and maternal and infant welfare in particular have undergone tremendous changes.

The average life expectancy is now 62 years. This prolongation is due to the accomplishments of medical science in reducing the hazards of infancy, in immunization, preventive medicine, and in more effective diagnostic and therapeutic methods.

Industrial medicine has made strides as well. Hazards have been limited by periodical physical examinations and preventive measures. Formerly an average of 28 days' work each year was lost by each worker because of illness or accidents. Today the average worker loses less than eight days per year.

Preventive and therapeutic medicine have achieved tremendous advances in the care of the disabled, the blind and deaf, cardiac cripples, cancer victims, communicable diseases, venereal diseases and many more. New methods have been added each year. Diabetes, pernicious anemia, yellow fever, nutritional disorders, streptococcus infections, pneumonia, meningitis, gonorrhea, typhoid fever, and a host of others have fallen before the discoveries in the fields of endocrines, vitamins, biologics and chemotherapies.

The chief criticism seems to be that we have done our work too well. With the increase of life expectancy, we have created problems of social security. The reduction of industrial disease has caused unemployment problems. With the betterment of methods we have caused social workers to demand ways and means for supplying these advantages to all. The result has been the current socialistic trend of legislation.

It has been charged that organized medicine is incompetent to meet the "social demands of the age." No observer who surveys disinterestedly the accomplishments of organized medicine in America could subscribe to the idea that members of the medical profession have been anything but progressive, efficient and capable of adjusting themselves to changing conditions. In fact, the medical profession has been foremost in fostering and contributing to progress and worth while change. In less than one hundred years it has more than doubled the life span of Americans and has contributed materially to the present outstanding health of our citizens.

The record will show that medicine has kept pace with a changing world. This fact has abandoned to some extent the old conservative attitude. This fact is attested to by more than 750 projects of contract practice, and 200 experimental plans for the distribution of medical care, which are being carried out by local medical societies.

Now, in 1914, we find agitation for change overshadowed by the demands of the defense emergency. Once again medicine has met the crisis, by volunteering its coöperation. Organized medicine is giving of its service freely in attempting to solve the many perplexing problems of a nation preparing for war.

For the doctor to survive in the changing world demands wise deliberation and infinite patience. The greatest danger which we face is that of hasty, ill-advised action; especially on the part of government, or any other group with non-medical leadership. The leadership in all future change must come from the medical profession. The past record of organized medicine proves its ability to solve whatever problems now exist or those which are likely to arise in the future. It is up to us to preserve to the remotest posterity the great tradition of progress which has studded the course of organized medicine throughout its history.

Diabetes*

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DIABETES IS A metabolic disorder due to failure of the pancreas to manufacture insulin, with the result that glucose accumulates because it is not oxidized, and it is thrown off by the kidneys. Fats and protein metabolism are secondarily disturbed.

The condition, known to the ancients, was named by the Greeks. No real progress was made in unravelling its mysteries until artificial diabetes was produced in the dog by removing the pancreas in 1890. Even then, investigators were stumped in producing a hormone they felt sure must be present until in 1923 Dr. Banting, a Canadian, may God bless his memory, prepared insulin, through the happy thought of tying the pancreatic duct to cause atrophy of the digestive juice sources in the pancreas, leaving the islands of Langerhans intact and full of hormones.

Diabetes is believed to be on the increase, but maybe this is like the incidence of new growth —more people are spared death from other diseases to develop diabetes, or maybe search for it is keener.

Diabetes seems to be inherited, but it is a saving observation that the diabetic offspring of diabetics have a milder diabetes than their forebears.

Obesity is a noted cause, but most of the diabetics I know are not overweight. Infections are not believed to be a factor in the cause of diabetes, as one would expect, since they cause almost everything else. However, one case of diabetes I saw develop came on just after the man had been treated for "intestinal flu." Did he have a pancreatitis? Pituitary, thyroid and adrenal disorders may produce a hyperglycemia. Nervous influences, arteriosclerosis and syphilis are of little moment as causes.

Normal venous blood contains from 80 to 120 mgms. of sugar per cc. This level is kept constant by the interrelationship between the pancreas, liver, thyroid, pituitary and adrenals. There is a rise after meals up to 150 mgs. Blood-sugar higher than 150 mgs. per cent is presumptive evidence of diabetes. Glycosuvia does not occur in all persons at the same blood sugar level. The point in the blood sugar level at which sugar is wasted is called the renal threshold. So, glycosuria of itself does not mean diabetes, because the renal threshold may be low; nor does glycosuria mean no diabetes because the threshold may be high.

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*Read before the Delta Medical Society, Rosedale, Miss., April 8, 1942.

The blood sugar level after a fast and the level it reaches after ingestion of 50 gms. of glucose and the time it takes to return to normal give a picture of absorption and oxidation rates that separate the normal from the diabetic. The day before such a test the carbohydrate consumption of the person to be tested should be normal because after carbohydrate restriction the normal will give a blood sugar time curve like a diabetic, and the mild diabetic like the severe.

If carbohydrate is not present to be oxidized the tissues will use fat. If incomplete oxidation takes place, ketone bodies are the result. The presence of carbohydrate offsets such a result so it is said to be antiketogenic. Hence the old maxim that fat is consumed in the flame of the carbohydrate. Sufficient carbohydrate with insulin to oxidize it protects against ketosis.

Carbohydrate protects oxidation of proteins and spares the tissues. If carbohydrate is not present in sufficient amount tissue oxidation occurs and results in ketosis.

Insulin is carried to all tissues of the body to achieve storage of glucose as glycogen and to oxidize glycogen. Storage is greatest in the liver. The greatest consumption takes place in the muscles. The hormones of the pituitary, adrenal and thyroid exert an anti-insulin effect, the blood sugar level being a balance between the two forces. Insulin acts to liberate sodium base to restore alkaline reserve in acidosis. One unit of insulin oxidizes one to six grams of glucose.

Sugar in the urine is the usual sign that indicates diabetes. Its amount is not always the index of severity of the diabetes. Lipemia is present in severe cases and in coma. Increase of blood cholesterol occurs in the untreated diabetic. In the juvenile case its measure is a better index of control than the blood sugar. The symptoms of diabetes are thirst, polyuria, loss of weight. Polyphagia, especially of sweets, aching of the limbs, weakness and sleepiness are present. Changes in the blood vessels of the retina are frequently the first signs to show. The principal complications of diabetes are cardiovascular disease, infections and acidosis. The untreated diabetic shows early arteriosclerosis. This causes impaired circulation of the extremities with gangrene resulting, especially if trauma or infection supervene. Myocardial change or coronary thrombosis and diabetic retinitis are frequent.

Infections are very serious in the untreated diabetic, and in the treated require increase in the dosage of insulin. It is agreed by all that infection has an anti-insulin effect. With increased insulin and carbohydrate feedings, the resistance to infection is enhanced. Tuberculosis is especially grave in the untreated diabetic, not so bad in the treated.

Acidosis or ketosis is due to incomplete oxidation of fatty acids. One notices air hunger, flushed appearance and dry skin. There is sugar, acetone and diacetic acid in the urine, and high blood sugar. Diabetic coma and insulin shock may be mistaken one for the other. The blood sugar, glycosuria and low CO_2 combining power of the blood will separate them. Diabetic acidosis may be mistaken for an acute abdomen on account of the leucocytosis and rigidity.

Requirements for daily nutrition of a 154-lb. man given by the AMA Council of Foods are, for moderate work, 70 gms. of protein calories about 3000 (the 70 gms. of protein will provide 280 calories, the remainder from carbohydrate 4 calories per gm., fat 9 calories per gm.) Calcium .7 gm., phosphorus 1.3 gm., iron 12 mg., vitamin A, at least 2000 units, vitamin B, 300 units, vitamins C, 600 units, vitamin G, 600 units. Hard work may increase this up to 500 calories. Women take 20% less and children more in proportion to weight. Children also take more protein, one to two gm. per pound. An adult should take one pint of milk, two vegetables, two fruits, one or two proteins, whole grain cereal. If the patient loses weight, increase the butter equivalents.

There is a tendency toward the free diet, i. e., eat what you desire if you are getting your insulin. The proponents are positive in their advocacy of this plan, but the old way has been so good that the only defense of the free diet is the lack of trouble and satisfaction at table.

It does not seem to me right to control a mild diabetic with diet alone. Although he may get by without insulin, with it he will have an added energy and protection from acidosis.

It is pretty well proved that diabetic acidosis is due to reduction of glycogen in the liver. Overeating carbohydrates does not do this, but leaving off insulin does. Similarly, anything that will deplete the store of glycogen as hyperthyroidism, hyperpituitarism, infection, surgery, vomiting, diarrhoea, etc., will tend to produce acidosis.

As to the dose of insulin and what preparation to use, if the protamine zinc insulin can be used by itself, life will be more comfortable. A small addition of old insulin to the morning dose, in the same syringe, is perhaps better than the new by itself. Urinalysis before breakfast—the second urine in an hour—will dictate the changes to make in the protamine. Urinalysis before supper will dictate the changes to make in the old.

The worst complication of diabetes is coma. The principles of treatment are hydration, insulin, glucose and restoration of electrolytes, i.e., giving saline with the glucose.

In chronic acidosis give salt by mouth with increased drinking water.

DISCUSSION

Dr. E. T. White (Greenville): Diabetes mellitus is due to a decreased function of the islands of Langerhans in the pancreas but there is convincing evidence that this is secondary to disturbances in other endocrine glands, notably the pituitary, adrenal and possibly the thyroid.

Diabetes is on the increase probably due to the fact that more people live to the common diabetic age and slightly to better facilities for diagnosis now than in the past. From the statistics of the National Health Survey it is estimated that there are 660,000 cases of diabetes in the United States. It was the twenty-seventh cause of death in 1900 and ninth in 1938. It is most common in the nonlaboring class of people.

The diagnosis is made by consideration of the patient's symptoms, family and past history, physical findings and laboratory data. The laboratory tests of most importance are the finding of glycosuria, hyperglycemia and in doubtful cases a glucose tolerance test. I should like to stress the importance of routine urinalysis on all patients because the finding of glycosuria is often the first indication the doctor has as to the correct diagnosis.

The presence of glycosuria should not be considered a positive evidence of diabetes because other conditions may cause it, as renal glycosuria, intracranial injuries, acromegaly and false positive reactions due to glycuronates that may be present in decomposed urine or after the ingestion of salicylates, menthol, morphine, pyramidon, etc. Neither should the absence of glycosuria eliminate the possibility of the diagnosis of diabetes because often the renal threshold is greatly increased in diabetes and it is necessary for a marked hyperglycemia to be present before sugar appears in the urine.

In view of the increasing frequency of diabetes the prevention of this disease should concern everyone. Diabetic patients should not intermarry, as surely as they do their offspring, if they live long enough, will develop diabetes. Increasing weight should be checked by curtailing the diet. Physical exercise is an important preventive measure. It inhibits and develops muscles which are carbohydrate consuming. The part played by infections in the etiology of diabetes is under dispute but it is generally agreed that infections of the gallbladder predispose to diabetes and that its correction is an important prophylactic action.

In the treatment of diabetes we should try to restore and maintain physiological blood sugar and cholesterol values, prevent glycosuria and acetonuria, to secure normal nutrition and restore the patient to a normal sense of well-being and ability to carry on a useful existence.

The treatment consists of proper diet, insulin, exercise, general care and proper training. The diet should be rich in vitamins, especially B, and should consist of proper amounts of carbohydrates, fats and protein and in sufficient amount to produce the caloric requirement of the patient. The division of the diet is adjusted to the individual patient's needs. Some may take it in three equal meals, others require more at lunch and at the evening meal and occasionally some of the carbohydrate must be given at night or in the forenoon so as to maintain a uniform blood sugar level throughout the twenty-four-hour period.

Insulin therapy is indicated when the disorder is not controlled by suitable diet and exercise and during acute complications. The amount and time of administration of insulin must be determined for each individual patient.

The training of the diabetic patient should consist of the proper measurement of his food, the administration of insulin, test for glycosuria, proper hygienic care of his body and especially the feet, how to adjust the insulin or diet with exercise and the importance of regular check-up by his doctor.

There are many complications to diabetes, the most important of which are diabetic coma, arteriosclerosis, gangrene, cataract, retinitis and neuritis. The best prophylaxis to these complications is to maintain at all times physiological blood sugar and cholesterol values and keep up a sufficient vitamin concentration. The best treatment for coma is large doses of insulin with glucose in saline because fats are metabolized along with the oxidation of carbohydrates. Alkalies are usually not indicated but occasionally we have to use them and Hartmann's solution is the one of choice.

Reactions to the treatment may be hypoglycemia or allergic reactions to insulin. The treatment for hypoglycemia is the prompt administration of carbohydrates. Allergic reactions if mild may stop after two or three weeks, but if more severe may require changing the type of insulin, changing the pharmaceutical brand, or from hog to beef insulin.

Pretty girls are made to play an important part in everything from the fine arts to the best commercial enterprises. They lend a touch to romance to the lingering shadows of vanishing eras of our social life. They glorify the cigaret industry, even by appearing in the role of teaching the Egyptian sphinx to smoke. The debauchery of life by intoxicants never becomes so shameful but that women appropriately donned are made to shield the iniquity at the bottom of the cup. It is much easier to see the beautiful face than to sense the poison in the sparkling beverage.—Dr. W. D. Duren.

The
Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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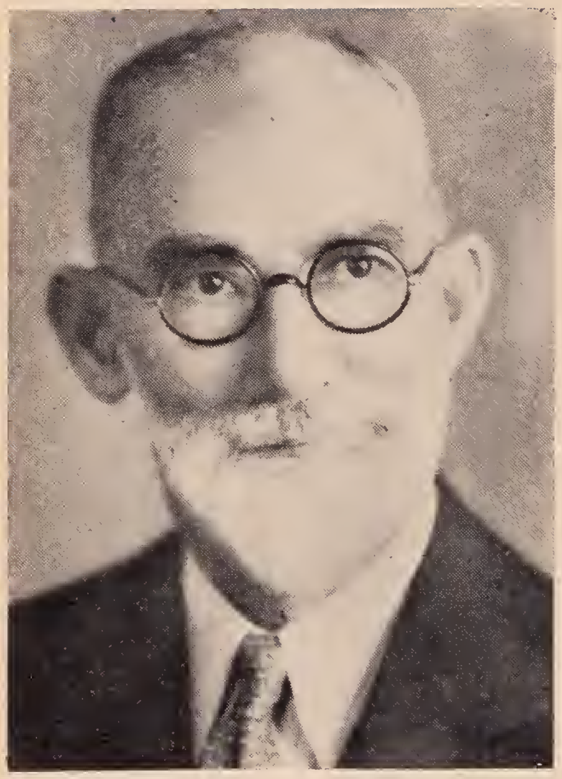
The doctor shortage in this country is growing more acute in our state and in the South each day. The soldiers on the fronts must come first with emergency medical aid. But the emergency work back at the base of production is also important. There must not be too much distinction in the estimate of applied medical service. Really the greatest outlay in physical effort and mental ingenuity must come from the practitioners who have the responsibility of the health of the people at home on their shoulders. Public health must double its efforts and ever keep in mind service to the people before considering convenience for the unit. Practitioners must use all their energies in treating the sick instead of dividing their time with personal interests. Nurses must be utilized as never before and the pharmacist and the doctor must coöperate and help each other, that the ultimate may be provided the people. The services of lay people must be solicited. It is time for coöperative medicine, for medical brotherhood.

The state, the nation, the church and philanthropy must join hands. The small town might have a medical center furnished by the town and the county, consisting of a hospital and a medical arts building large enough to accommodate every doctor, dentist, pharmacist, and the public health department. The hospital would function best if operated in the interest of all the people alike with the doctors treated on the same footing. The office building would be self-supporting from the rent to the profession. Such a set-up would be a real center for treating the sick and educating the public. This center should be supplied with a bus service for transporting the sick to and from the hospital. Time and effort could be saved under a plan of this type and medical activated.

The outlook for a good meeting of the Southern Medical Association at Richmond in November is quite good, according to efficient Secretary-Manager C. P. Loranz of Birmingham. No doubt this will be a valuable meeting for the doctors in armed forces as well as for those who are carrying still heavier burdens back at the home base. Make your plans now to attend if at all possible.

During the depression the mortality due to the time from the onset of an attack of acute appendicitis and the operation increased twenty-five per cent. This gives an idea of the part economics plays in sickness. Dr. Time is the most successful doctor of all time for acute appendicitis. Early diagnosis and early operation constitute the most important factor in the reduction of the death rate. Education is the key to early diagnosis; and an available hospital bed is a powerful aid to early operation.

It seems that women wait longer to have an operation for appendicitis, but they also stand the disease better than men.



Dr. and Mrs. W. L. Little Celebrate Golden Wedding

Of interest to physicians and their wives over the entire state is the fiftieth wedding anniversary which Dr. and Mrs. W. L. Little of Wesson, Mississippi, will celebrate on September 28. They will entertain their many friends with open house at their home in Wesson that Monday afternoon from four until six o'clock and from seven until nine o'clock.

The Littles are one of the most beloved couples in the Mississippi State Medical Association. Mrs. Little is just as regular an attendant as her husband, and both are favorites. Many recall how charmingly they both led the president's ball in 1938 when Dr. Little was president of the state association. One is persuaded that they have made life a song through sunshine and shadow, and each is a delightful compliment to the other.

It was in 1889, shortly after his graduation from Tulane Medical School, that Dr. Little began the practice of medicine on horseback over dirt and mud roads leading to and from the bustling mill town of Wesson, then with a population of 3500 people. He soon met the lovely Miss Annie Ellis, whom he courted and at length wed in 1892.

Malaria, typhoid fever and other diseases since conquered by prevention, were running rampant in that era half century ago. Calls came to the young doctor by messenger instead of by telephone. There was no electric current for lights or sterilization. There were no trained nurses, and the only available hospitals in the state were at Natchez and Vicksburg. Patients who required hospitalization were usually sent to New Orleans for treatment. But the young doctor and his gifted young wife took progress by the reins, and actively led or participated in the civic development about them while building an up-to-date practice. They helped with building schools, roads, a municipal water system; and they encouraged diversified farming with emphasis on truck crops and dairying when in 1912 the demolition of the Wesson cotton and woolen mills employing 1100 people reduced the income and population of the town. Today Wesson is better known as the site of Copiah-Lincoln Junior College, and the section is interlaced with paved and hard-surfaced roads. Nor have the Littles ever neglected their church life. He has for many years been chairman of the board of deacons of the Wesson Baptist Church, and she consistently placed her church activities foremost in rearing their four children.

Dr. Little became a member of the Mississippi State Medical Association in 1891. He is a charter member of his Tri-County Society, which was one of the first county societies organized in the state. He is also a member of the Southern Medical Association. For about fifteen years he was a member of the Mississippi State Board of Health, and for the past forty years has been local surgeon for the Illinois Central Railroad.

Mrs. Little affiliated early with the Tri-County Ladies Auxiliary and began attending the state organization soon after it was organized. Gracious, gay and adaptable, she has shared or led in the undertakings of our doctors' wives through the years. Not infrequently have her poems graced medical programs and journals, and especially fitting are her tributes to those who pass on, when again and again she is chosen memorial chairman.

When one asks the doctor how practice today compares in retrospect, he believes his fifty-three years have seen history's greatest achievements in industry and science. In medicine he places prevention first, unless the sulfonamides prove to be the surpassing achievement, in conquering disease. "With the progress now being made to eradicate cancer, tuberculosis and venereal diseases, tremendously aided by preventive medicine," says Dr. Little, "I expect to see even greater success in combatting disease and increasing the usefulness and longevity of man." Dr. Little has been active physician and surgeon to a large clientele these fifty years, and expects to put his shoulder even harder to the wheel during the war emergency.

Dr. A. H. Little of Oxford, Mrs. L. P. Norman of New Orleans, Mrs. Curtis Youngblood and P. E. Little of Wesson are the four children who, with their husbands and wives and children, will join Dr. and Mrs. Little in celebrating their golden wedding anniversary. To the wishes and felicitations from scores of friends over the state the MISSISSIPPI DOCTOR wishes to add its toast to one of the most gallant couples who ever became a part of Mississippi medicine, and may their golden wedding be blessed with joy that is sweeter and happiness more overflowing than on their wedding day.

Drop a line to Dr. and Mrs. W. L. Little of Wesson on the celebration of their fiftieth anniversary September 28. A happy couple they have been walking with the people and serving them for a half century. This couple have entered into the pleasures and joys and sympathies of the people in bringing them health assets and inspiring them with heart power. Dr. Little writes us that he is busier now than he has been for a number of years. He is a splendid example of the fine type of general practitioner who has been the greatest producer of general health values the past several decades. In the War Between the States the Confederate soldier was the bravest, the most noble, and the most resourceful that history has yet recorded. Now in this world struggle for the freedoms represented by a democracy, in this struggle for the American way of life, in this battle for human justice, no class of men will be found making more sacrifice, displaying more ability, and devoting more concentrated effort to a noble cause than the practitioners of the type of Dr. Little. Glory, honor and happiness to Dr. and Mrs. Little on their golden wedding.

The third quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society was a fine one. It was held at Amory, the home of the medical sage of Mississippi, Dr. G. S. Bryan. He had as his guests and the guests of the society Dr. Seale Harris, Sr. of Birmingham, Ala., and Dr. J. Shelton Horsley of Richmond, Virginia. You will not find more courtly Southern gentlemen than these two and they are the embodiment of medical integrity. The attendance of the meeting was fair, but not as good as it should have been; the interest was unusually good. Dr. W. C. Walker of Houlka was present as usual. His interest and his regular attendance is an inspiration.

The Woman's Auxiliary is to be commended for its sustained interest. This organization is doing its part well in furnishing inspiration and enthusiam for the doctors. The medical profession can not have too much understanding assistance, and the auxiliary can do much in interpreting the profession to the public.

The Amory doctors entertain well and are most cordial. Dr. G. S. Bryan was as usual a very thoughtful and obliging host. But at this meeting he was different. His vim and vigor has increased. He not only stayed busy looking after the guests, but he was busy dodging in and out making calls and seeing patients. He has accepted the challenge and is meeting the issue. Monroe County is very short on doctors. It has furnished a big percentage to the armed forces and this veteran doctor is doubling his energies to hold the lines and do his part and more back at the base so that the supplies out at the front may not be wanting. It is an all-out effort for one and all and he is showing the way.

The next meeting of the society will be held in Tupelo, the hub for this territory, and we trust it will be well attended. The war creates for every doctor an urgent need to attend each and every medical society possible, instead of an excuse not to go. A big challenge to the men back home is to keep the medical society in liquid form, in action to the nth degree, and not to liquidate it.

It is difficult to write or even to think these days, except in terms of war. At long last it must be evident to most if not to all intelligent people that every undertaking and ambition must conform to a pattern of war's design. Everything, social, political and financial, is in a state of fusion. Certain medical principles are proved and established and may not be set aside but there will, surely, be many changes in teaching and rules of practice. I rejoice that there have been developments in medicine in the recent past that may and will prove of great benefit to the war-torn world. Our conception and understanding of chemotherapy will certainly be the means of saving thousands of lives. The local use of the sulfonamides in wounds will no doubt be of unmeasured benefit in the care of wounds. I feel that every soldier should be furnished a supply and should be instructed how to use it immediately after receiving even trivial wounds. In this way all kinds of infections, including the anaerobic, may be prevented or rendered less serious. And I trust that our field surgeons and stretcher bearers may be taught and instructed to disturb as little as possible those who are in deep shock. Acting as division examiner for the Veterans' Bureau following the last war, I examined and reported on numerous veterans who were thought to be past relief and left for many hours, sometimes for days, without any kind of aid, and yet they survived. Had these men been moved or transported while still in shock they would, most likely, have died before reaching hospital or dressing station. With ambulances that will fly it should be better, and will be better. On the whole I feel that the sick and wounded in this war will be given better care than has ever been possible in the past.

Leaving consideration of medical care of the army contingent, and reverting to the care of the nonmilitary contingent, an undertaking of tremendous importance must be faced by the doctors whose duty it will be to carry on back at home. Our boys must not suffer for lack of medical care. The old, sick and young, must have adequate medical care as well. How this may be managed is a problem for every doctor to consider. Many of us will break under the strain and go down. But what of it? Surely if our boys can afford to sacrifice many years of life and happiness, we should not hesitate to give the few years that remain to us. But in order to render efficient service to those dependent upon us, we must conserve our strength and energies as much as possible. More patients must be seen in our offices and fewer bedside visits made. We must make every effort possible to teach our people how to keep well. A great deal of surgery that is now being done must go undone. And this is well; for entirely too much surgery is being done. Emergency and life-saving surgery must and can be furnished. Some of the sanest and safest surgeons are far past military age. Some of these may have stepped aside for the younger men. Some, indeed, may never have cared to do surgery. But under changed circumstances they will find that they are very competent. So let our older men arouse themselves to be as good as the very best. Why should a man because age comes on apace fall out or even lag behind? For myself my greatest regret is that I have not another life to devote to the study of the greatest profession in the world. The greatest curse of medicine is that so many men seem to have entered the profession with the idea that it is a means of making money. So let us wake up and begin anew to study medicine. Let us carry on until our boys "come home" and then let us turn over to them the work that we can no longer do. If every one of us will make this resolve and strive to keep it, I am sure that our people will not suffer and that when the end comes our neighbors will say "They were good and faithful servants." I could wish no better epitaph inscribed on my tomb. Let's keep them flying, keep them fighting and keep the home fires burning.

—G. S. B.

(*Editorial from the Journal to the American Medical Association.*)

PROCUREMENT AND ASSIGNMENT

There has been so much misinformation and misunderstanding regarding the activity of the Procurement and Assignment Committee and its relationship to the volunteer medical officer that a few simple statements should be made. From necessity these must be predicated upon the conditions existing in the middle of July but since most of these are statements of principle the possibility of drastic change is not likely.

A physician cannot become an officer in the medical corps of the United States Army or Navy except of his own free will and accord. Doctors are not *wanted* as officers of the medical corps of the United States armed forces *except* of their own free will and accord.

The Procurement and Assignment Committee of each state is selected by the Government of the United States. This committee selects from each county an advisory local committee. While in most cases they represent the previously society-appointed Medical Preparedness Committee they do not function as a committee of the county or state medical society. The local committees have been asked to review the professional needs of the community to analyze each physician's value to state whether each man in the age group is considered essential to the community or available for military service, bearing in mind the urgent need of the country in its desperate struggle against terrific odds for the survival of freedom. The actions of the local committee are purely advisory: the final decision being made by the Procurement and Assignment Committee of the state.

This state committee can declare a physician essential to his community for varying periods, balancing the needs of the community and the needs of the armed forces. The length of the time he is considered essential will be based upon the future needs of home and army. During the period that he is considered essential by the committee, a commission will not be granted and he will not be drafted.

If one does not wish to become an officer in any United States medical corps he may signify it by not applying for a commission. If application has already been made for a commission unwillingness to serve is evidenced by not appearing for the physical examination. If the examination is completed and passed the commission may be refused when it is offered. There is no legal penalty at any step. Those who do not wish to become officers simply revert to the same status as any other citizens of the United States and the local draft board will call them to service in the same manner as any other citizen. There is only one exception: the fact that a commission in the medical corps was offered at a substantially higher monetary return than that of the ordinary soldier will be considered in determining the classification in 3A. Of course, at any time the army may refuse to offer anyone a commission again.

If one does want to be commissioned as an officer in a United States army medical corps application should be made through the Medical Department Officer Recruiting Board who will authorize a physical examination. If this examination proves the applicant is physically fit a commission will be forthcoming provided he is not considered essential to the community by the state Procurement and Assignment Committee. Even this is not an insurmountable objection. A number of professional men have found substitutes for themselves in their communities and thus obtained a reclassification by the Procurement and Assignment Committee.

The United States is in the midst of a desperate struggle for life. There is an acute shortage of medical officers. It is not a silly sentimentality to reiterate that the country needs them and if their absence does not seriously damage the health of the home community, the duty is clear.

A physician cannot become an officer in a United States medical corps except by voluntarily accepting a commission.

The United States needs medical officers.

Book Reviews

Vaginal Hysterectomy, by Drs. James William Kennedy and Archibald Donald Campbell, fully illustrated and published by the splendid F. A. Davis Company, brings back to the profession its many advantages. The surgeons in this book do not condemn other methods, but do make comparison and show the advantages of the vaginal route. They do not claim that their method is new, but are seeking to broaden the field on indications beyond what has been practised. The fact that this route was the first used for hysterectomy is worth consideration, the authors think.

The real value of any surgical procedure should be measured in terms of mortality and morbidity, say the authors, and upon this criterion they are willing to base their claims. Attention is called to the fact that the vaginal route provides for a complete hysterectomy and that complete hysterectomy is more grave than supravaginal, but it eliminates the future cancer peril of the cervix. The authors call attention to the multiplied hundreds of women who have injuries to the birth canal in the form of lacerations and prolapse of the uterus.

The history of vaginal hysterectomy is traced fully and carefully from its beginning. Dr. Joseph Price is given credit for outstanding work in this field. Indications for vaginal hysterectomy with the whys and wherefores of same are discussed.

In this book of 492 pages the anatomy of the pelvis is reviewed, complications of vaginal hysterectomy are discussed, pre- and postoperative treatment and anesthesia outlined, with ether given perference and the reasons stated.

In this remarkable book two plans of procedure are described: the clamp method and the suture method. No detail is left out in either; step by step each method is described and illustrated. A hundred and forty-nine pages are given to one method, one hundred and forty-five to the other, accompanied by more than a hundred illustrations.

It would seem that every general surgeon and every gynecologist would want a copy of this book. F. A. Davis Co., Philadelphia, Pa.

The fourth edition of the *Care of the Aged* (Geriatrics), by Dr. Malford W. Thewlis, is now off the press. It has been thoroughly revised with 50 illustrations. The subject of geriatrics has been very important for many years, but now it should merit special interest. In 1940 there were over nine million people, or 6.8 per cent of our population of a hundred and thirty million over sixty-five years of age. In Mississippi about half of our medical population are over sixty years of age. It would seem that this most interesting and informative book would be read by at least half the doctors of Mississippi.

The book is composed of 589 pages with 36 chapters. In the beginning a splendid history of geriatrics is given and this followed in the third chapter by the value of age. Hygiene of the aged is given due consideration as well as an excellent chapter on the prevention of senility. How to prolong life you will find most interesting and helpful. The economic problem of old age, Dr. Thewlis argues, reaches such enormous proportions, the subject ought to concern every taxpayer and layman. Diseases of the aged from the standpoint of etiology, prevention and treatment are given due space.

Probably never before have the aged been called upon to work and serve as in our present struggle. The aged have been badly neglected in the past, to the hurt of all concerned. In 1980 the number of our population according to the author past sixty-five will be 22,000,000 or more, sixteen percent.

Every practitioner should have a copy of this book and it should be widely read by the laity. It is published by the C. V. Mosby Company of St. Louis and the price is $7.00.

Deaths

Dr. R. S. Curry, 80, physician, legislator and public official, died August 20 after several weeks' illness.

A native of Carrollton, Ala., where he began his medical practice, Dr. Curry, before his retirement, also practiced in Artesia and Columbus.

During 32 years in Jackson, he served for eight years as superintendent of the Mississippi School for the Blind; as state factory inspector for the State Board of Health, in 1924-29; member of the House of Representatives from Hinds County at two different times, and was both councilor and in 1907-09 president of the Mississippi Medical Association.

Dr. Curry died at the home of Mrs. Julian Lipscomb, a daughter.

He is survived by another daughter, Mrs. J. C. Speed of Jackson; two sons, Robert S. Curry, New Orleans and John M. Curry, who was stationed with the Army in the Philippines.

Dr. R. C. Cunningham, 84, who had been a practicing physician in Booneville for forty-five years, died September 3 at his home following a declining illness. He was a graduate of Tulane Medical School, New Orleans, and in the early years of his practice combined a drug business with his medicine. He was married in 1894 to Miss Alice Robinson who died in 1914. He later married Miss Ethel Lee, who survives.

Dr. Cunningham is survived by four children of his first marriage: Dr. R. B. Cunningham, Thomas Cunningham and Miss Mabel Cunningham, all of Booneville, and Miss Quay Cunningham of Greenville, Miss.

The Rev. E. H. Cunningham of Amory conducted the funeral services.

Mississippi State Medical Association

Organized 1867 **Next Meeting: May 11, 12, 13, 1943**

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COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet	Third Tuesday 7:30 p.m.
Alcorn	D. W. Hamrick, Corinth	R. H. DeJarnette, Corinth	Third Friday, 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central Medical	R. B. Austin, Forest	James G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Marks	Guy R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	F. M. Acree, Greenville	Sec. Wed. April & Oct., 2 p.m.
DeSoto	C. W. Emerson, Hernando	L. L. Minor, Memphis, Rt. 4	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-War.	Hugh Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	C. R. Senter, Byhalia	H. Phillips, Holly Springs	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	Stanley A. Hill, Corinth	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	J. M. Smith, Magnolia.	V. S. Holmes, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., Mch., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Fields, Centerville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

A COMPARISON OF GENTIAN VIOLET AND HEXYLRESORINOL IN THE TREATMENT OF PINWORM INFESTATION — Howard L. Evans and Halcut Moore—Journal of Pediatrics, 20: 627 (May) 1942.

"Reports on the use of hexlyresorcinol and other reports on the use of gentian violet indicate that these two drugs are effective in a fairly high percentage of cases in the eradication of pinworms.

"In order to compare the effectiveness of these two drugs in the treatment of pinworm infestation, a group of children in an orphans' home was selected. They ranged in age from 6 months to 23 years, the majority being between the ages of 8 and 14 years."

"The children were examined by means of a modification of the NIH cellophane swab technique as follows: Cellophane of the nonwaterproof type was cut into strips slightly smaller than the size of standard slides, and one of these strips was wrapped around the smooth end of a glass rod. After swabbing the perianal region, the cellophane strip was removed from the glass rod, placed on the slide with the clean surface of the cellophane uppermost, and then secured with a gummed label on which the name of the child was written. Each child was swabbed in this manner on seven consecutive mornings as soon as he got out of bed, before having a bath or a stool. No child was considered free of pinworm infestation until seven negative swabs were obtained. During the course of the survey, at least three specimens from each child were obtained and examined for ova."

"On hundred and two children were examined, and 80 (78 per cent) were found to be infested with pinworms. It is significant that routine stool examination revealed only four of this group to have this parasite."

"The 80 infested children were divided into two equal groups comparable as to age and sex. One group was treated with hexylresorcinol (caprokol pills) in a dose of 12 mg. per pound of body weight, the maximum single dose being 1 gm. This drug was given once a week for five consecutive weeks. It was administered in the morning and the patient was encouraged to drink two glasses of water. No breakfast was allowed, and nothing except water was permitted for the next five hours. This period of fasting is necessary to minimize vomiting. The other group was treated with gentian violet (seal-ins) having the 4½ hour timed enteric coating. The dosage used was 1 mg. per pound of body weight per day, this dosage being divided into three approximately equal doses and administered 30 minutes before each of the three meals. This adjustment of the size of the three doses was simplified by the use of two sizes of gentian violet pills, one which contains 3/20 grain (10 mg.) and the other which contains ½ grain (32 mg.) The drug was given every day in this manner for one week; then a rest period of one week was allowed followed by a week of treatment, then another rest period of one week, and finally a third week of treatment. Thus the entire course of the treatment covered five weeks."

"There were very few reactions in the group treated with gentian violet. Only one child out of the 40 given this drug had nausea and vomiting. Two other children suffered only nausea. These three children were continued on gentian violet therapy in the same dosage and had no further nausea or vomiting. There were no other complaints attributable to the gentian violet medication." The dose was 1 mg. per pound of body weight per day. The writers have purposely given their group of children this reduced dosage (approximately 25 per cent less than is usually administered) because they desired to reduce the incidence of gastro-intestinal irritation.

"This survey . . . confirms the finding of investigators in various parts of the country that infestation with pinworms is very common, that either hexylresorcinol or gentian violet may be used to eradicate the parasites from the intestinal tract, and that reinfestation occurs with ease."

The writers believe "that gentian violet medication causes considerably less nausea and vomiting than hexylresorcinol and is easier to administer. It does not inconvenience the patient as does the five-hour fast imposed upon him after taking hexyloresorcinol."

"The reduction in the dosage of gentian violet proved to be a sound policy, as reactions were infrequent and the percentage of cures was high. It may well be that the success of this régime of therapy is partly attributable to the extra week of treatment."

COMMENT

I have been using both the remedies suggested by the authors for a number of years, and I, too, have found that in the majority of cases gentian violet is the better one of the two therapeutic agents to be used in pinworm infestation.

PUBLIC HEALTH

THE IMPACT OF THE WAR ON THE VENEREAL DISEASE PROBLEM, by Raymond A. Vonderlehr. New Eng. J. of Med. 227: 203-205, Aug. 6, 1942.

Attention is called again to how syphilis and gonorrhea, throughout all history, have depleted efficiency of the armed forces of various countries. During the first World War, 6,800 man-days were lost in the United States Army because of venereal disease—equivalent to a year's absence from the service of 19,000 men. Actually, the number of new infections with venereal disease in the Army exceeded by 100,000 the number of battle casualties. In the Navy and the Marine Corps, 687,000 days were lost from duty because of venereal disease.

Excellent progress has been made in the control of syphilis and gonorrhea. Massachusetts was cited as having done a leading job. It was first to require the reporting of syphilis as a communicable disease; first to provide serologic tests without cost; and first to distribute anti-syphilitic drugs to private physicians. Its hospitals were encouraged early to start venereal disease clinics.

Gains were made in all sections of the country, and figures based upon careful surveys disclosed that a person stood only half the chance of being infected with syphilis in 1941 that he did about ten years previously.

The first significant reversal of the downward trend in the venereal disease rates was recorded recently when the Surgeon General of the Army reported that the admission rate for all venereal disease for the whole Army for the calendar year 1940 was 42.5 per thousand as compared with 29.6 in 1939. This upward trend, so characteristic of wartime, should stimulate an all-out application of every modern method effective for the control of venereal diseases in both the armed and civilian population.

"Provisions for early diagnosis and facilities for the institution of prompt treatment now exist in almost all areas with full-time health services," Dr. Vonderlehr points out. "Scarcity of trained personnel has handicapped the follow-up program . . . and while we are forced to spread even more thinly our supply of medically trained personnel, we must not ignore the possibility of reducing case loads by taking every reasonable opportunity to prevent infections altogether.

"One of the shocking revelations in the prostitution racket of recent years has been the participation of private physicians in the plunder," states Dr. Vonderlehr. "Time and again, where tolerated prostitution exists, the people in the community are given a false sense of security by being told that the prostitutes are rendered safe from venereal infections because they are subjected to periodic physical examinations. Much too frequently, reputable members of the medical profession perform these perfunctory examinations, and the prominence of the physician often lends support to the erroneous belief that this system in effective.

"One among many instances can be cited that exemplifies the deplorable, yet profitable, part that private physicians have played in tolerated prostitution. Recently, the mayor of a city of about 50,000 openly supported a segregated area in which were located between 200 and 300 prostitutes. Nearby the Army had concentrated men approximately equal to the town's total population. The segregated district was doing a tremendous business, and the usual arguments against prostitution did not force the mayor to yield. He contended that the women in the area were examined periodically and were not the source of venereal disease in the armed forces, although the Army rates were unusually high. Further investigation showed that the son of the mayor was a physician in private practice who was examining weekly the women in the segregated area at fees ranging from $3 to $5. It was not until the governor of the state brought pressure to bear on the mayor and his son that they could be persuaded to discontinue their support of the segregated area. The son, incidentally, was a reputable physician in the community and a member of the usual medical societies. Can we, as physicians, expect the public to take aggressive action against prostitution when some of the members of our profession support the racket so flagrantly?"

COMMENT:

No comment could be made pertinent on this subject than Dr. Vonderlehr's own conclusion. He states: "In all history, war has opened the gates to pestilence. Venereal disease strikes first, and its wounds are often the last to heal. At the present time, the United States is better prepared than ever before to wage an effective campaign against gonorrhea and syphilis. Tolerated prostitution and failure to apply promptly modern medical knowledge are the most vunerable points in this field of medicine. Will the people of our democracy follow through against the venereal-disease foe within as efficiently as we will wage war against our enemies without?"

State Board of Health

Felix J. Underwood, M.D.

EMERGENCY MEDICAL SERVICE

As State Chief of the Emergency Medical Service, Mississippi Civilian Defense Council, Dr. Felix J. Underwood addressed the meeting of the State Nursing Council for War Service, held in Jackson, August 16, 1942, and explained some of the purposes and objectives of this vitally important work. The substance of his remarks was as follows:

Civilian defense councils are official governmental agencies created for the purpose of handling wartime needs of civilians. The four major activities of the councils are:

Administration
Mobilization (Civilian)
Civilian Protection
Emergency Medical Service

Each nurse becomes a part of civilian mobilization as she registers at her local volunteer office of civilian defense. Mobilization is one very important phase of civilian defense and I feel that you are interested in this and also in Emergency Medical Service.

The possibility of unheralded bombing of the civilian population as well as potential hazards from sabotage, makes imperative the preparation of facilities for providing Emergency Medical Service for casualties that may result from such incidents.

The United States Office of Civilian Defense recommends that representation and consultation be available for the nursing profession at the national, regional, state and local levels to all groups responsible for Emergency Medical Service. You are familiar with your national and regional representatives and their activities and I will not dwell upon either of these.

The State Chief of Emergency Medical Service appointed a State Nurse Deputy whose duties are:

1. To assist the State Chief of Emergency Medical Service and the local nurse deputies in mobilizing all members of the nursing profession for duty in the Emergency Medical Service during and after an enemy attack or other wartime disaster.
2. To aid the American Red Cross and the hospitals to carry through a full program of training of nurse aides so that the depleted ranks of hospital and public health nursing services may be assisted in carrying the heavy burden of wartime service in civilian hospitals and health

departments, as well as in the casualty stations and first aid posts of the Emergency Medical Service.

3. To assist the State Chief of Emergency Medical Service in the emergency assignment of private duty nurses, and of nurses from local and state hospitals and health agencies to base hospitals, if the need arises for the evacuation of patients from casualty receiving hospitals of the coastal cities.

The *local chief of Emergency Medical Service* in each county is a physician of broad experience and administrative ability. He knows the community's medical resources and facilities. Each of the eighty-two counties in Mississippi has a local chief of Emergency Medical Service who is preparing plans, developing an organization, and providing or assisting in providing for the training of personnel to carry out the functions of Emergency Medical Service.

In each county, there is a *local nurse deputy to the local chief of Emergency Medical Service.* Her duties are:

1. To maintain an active file of available nurses and to furnish this information to the local chief of Emergency Medical Service.
2. In collaboration with the Red Cross to provide all nurses with a First Aid course and instructions on gas protection and the care of chemical casualties and the care of convalescents.
3. To arrange for home visits to casualties.
4. To assist local chapter of the American Red Cross and the local hospitals in carrying through a full program of training nurses' aides for wartime service in civilian hospitals and health departments as well as in casualty stations and first aid posts of Emergency.

The *local nurse deputy* may serve as chairman of the local nursing council in those instances where appointment has not previously been made. (The local nursing council is made up of institutional nurses, public health nurses, private nurses and inactive nurses).

The *local nursing councils* may assist the local chiefs of Emergency Medical Service by:

1. Consulting the local chief of Emergency Medical Service regarding plans for the use of local nursing resources.
2. Arranging for meetings of the nursing profession at which time the local chief of Emergency Medical Service may explain the Emergency Medical plans.
3. Informing public health nurses of what is being done in order that they may carry information to the public.
4. Placing in the hands of the local chief of Emergency Medical Service an inventory of available nurses with their location and telephone numbers (both day and night).
5. Consulting with the local chief of Emergency Medical Service about plans that may be made for additional service in the homes. For example:
    - (a) If it is necessary to provide hospital beds for the care of casualties, patients may be discharged from the hospital earlier than usual.
    - (b) Following the incident, the physician decides whether slightly injured persons may be sent home after first aid treatment is given.
6. Keep the State Nursing Council on War Service informed concerning local activities and problems.

Also, the state and local nursing organizations may assist civilian defense in collaboration with the American Red Cross as follows:

1. *Volunteer Nurses Aide Program*—There is *urgent* need that this be promoted by state and local nursing councils.
2. *Home Nursing Program*—Needs assistance in its promotion from every nurse so that women may be ready to care for sickness in their homes during an emergency and relieve the hospitals of some of their load. When possible, nurses should arrange to teach home nursing.
3. *First Aid*—Every nurse should take a first aid course in order that she be prepared to help in casualty service.

Performance of tasks by nurses acting as a united group in each county will save confusion and duplication. Only through a central group, representative of all nursing interests, can the work be effective.

I should like to give you a brief review of *Emergency Medical Service.*

A hospital (or other) ambulance, station wagon, small truck or passenger vehicle will transport the personnel of a squad (or squads) and their equipment to the casualty station designated by the local chief of Emergency Medical Service. (Note: Physicians and nurses are organized into squads—nurses aides and orderlies may be included if so desired.)

Upon arrival, near the site of disaster (that is, upon arrival at the casualty station) the squad will begin the operation of the casualty station (and again the casualty station is a predetermined location). The casualty station may be a school, a church, a USO or other building. The casualty station will be located so as to provide:

Safety, shelter, and accessibility.

Stretchers, cots, and blankets will be sent ahead of the squad to the casualty station and be available upon arrival of the squad. *Until released by the local chief of Emergency Medical Service*, the physicians and nurses (and nurses aides) *remain* at the casualty station.

The work of the casualty station is limited to emergency first aid procedures as follows:

1. Relief of pain
2. Prevention of shock.
3. *Control of bleeding.
4. Care of burns.
5. Application of simple splints and surgical dressings.
6. *Giving of artificial respiration (patient must be made to breathe *at once.*)
7. Provision of suitable nourishment.
8. Preservation of morale.

*This should be done at First Aid Post.

Each of the above is important. The importance of immediate attention to casualties cannot be stressed too much.

The seriously injured will be sent as rapidly as possible by ambulance or other acceptable vehicle to a hospital. (Vehicles not ordinarily used as ambulances may be used if properly equipped, and acceptable.)

Those with minor injuries will go to their homes or to temporary shelters in case their homes have been destroyed.

The squad leader in charge of a casualty station may split off one or more teams of one physician and assistants dispatching them to set up a first aid post *at the site of the disaster.*

Note: Casualties will be conducted on stretchers to the nearest first aid post or casualty station by rescue squads.

Hospitalization is an important phase of Emergency Medical Service. A survey has been made of all hospitals in the state to determine their emergency bed capacity. Information is now being assembled for certain hospitals and institutions to be used in designation of emergency base hospitals designated in the state. In the near future, you will be furnished information with regard to the designation of these hospitals. These base hospitals (known as emergency base hospitals) will be located in areas reasonably safe from expected emergency and will be selected with the idea of providing a high standard of medical care to casualties evacuated for casualty receiving hospitals in vulnerable and densely populated areas.

Hospitals in the following cities have been selected to form OCD affiliated hospital units: Jackson, Meridian, and Vicksburg. These units will form the nucleus of a staff for emergency base hospitals. The organization of these units is being undertaken by the hospitals upon direct invitation of the Surgeon General of the United States Public Health Service. These units will include physicians and nurses.

Civilian defense is perhaps the largest organization that has ever functioned in peacetime or wartime. It affects every man, woman, and child. It may be a great unifying force and help in building morale. Our earnestness and sincerity of purpose will inspire confidence. Civilian defense is a potential force for good in your community and you can help in this patriotic endeavor by volunteering your services today.

MEDICAL LIBRARY

The immediate effect of America's entry into the war was the speeding up of every phase of health work which might have a helpful influence on the efficiency of the war effort. In supporting these activities, the library assumes a place of increasing importance as it complies with needs for basic materials and bibliographies.

In addition to performing routine services, the library has pledged its utmost support of a plan to provide medical library service to the armed forces. This plan is under the leadership of the Medical Library Association. The State Board of Health Library has already been rendering service to local units of the armed forces; however, all areas will be more completely served when the various member libraries of the Association form a network and serve specified areas. The Medical Library Association is composed of all leading medical libraries in America and has many members abroad. The State Board of Health Library has access to photostating facilities at very low cost (5c per page) and also offers the use of its microfilm reader to those who wish to take advantage of the Army Medical Library's medico-film service. Physicians in military or naval service may get microfilm reprints free; to others the charge is very nominal: 25c for each complete article not exceeding 25 pages in length and 10 cents for each succeeding 10 pages or fraction thereof.

The value of the State Board of Health Library's collection has been greatly strengthened in recent months through the addition of the following books:

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A SELECTED LIST OF LATE BOOKS IN THE MISSISSIPPI STATE BOARD OF HEALTH LIBRARY

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DO YOUR CHILDREN BELONG TO YOU?

(The following article is reprinted from the "How to Keep Well" column, by Dr. Irving S. Cutter, of the June 6, 1942, issue of the *Chicago Tribute.*)

"May the time never come when we will forget that our children are our very own. The rearing of a family is a privilege as well as a chore. It involves not only the development of strong bodies but loving care when illness strikes and, more important than all, the building of character.

"In these days when most of our affairs are regulated by authority, parents must remember that they themselves are solely responsible for the upbringing of their offspring.

"But they must be sufficiently intelligent and so situated that food, clothing, and shelter can be provided until the under-age members are able to fend for themselves. This is in sharp contrast with the regimentation of youth. Each child is taught to believe that forebears are mere incidents along the pathway of existence.

"Nations that adopt such an attitude look to the oncoming crop of little ones as so many potential soldiers and workers. To them, the state becomes father, mother, brother, and sister—with every move ordered and planned until the young adult shoulders a gun or takes his place at a machine.

"Such a status cannot exist in a free society. The strongest bands of loyalty and devotion exist within the home. Of course, the government has certain responsibilities. It must step in when a pupil with diphtheria is allowed to mingle with others in a schoolroom. Furthermore, it can recommend procedures for physical rehabilitation. But we hope we shall never see the day when Johnnie or Susan may be sent to a federal hospital and there subjected to treatment whether father or mother agrees or not.

"So long as the public health program consists in educating the general population to the vital role of good health—the fact that it is a social and economic asset—to that extent the cost is justified. But the more that is done for our sons and daughters by various welfare agencies, the less will they be our own. We should have more faith in American parents, who desire to give their progeny every advantage of education—of physical perfection—leading to economic independence.

"But because the state is obliged to intervene in a condition fraught with public danger does not mean that your boy and mine will be better off when his formative years are planned and supervised wholly under Section E, of Division Y, of Bureau H."

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Please make these corrections in your yearbook.

NORTHEAST THIRTEEN COUNTIES AUXILIARY

Welcomed at the delightful home of Mrs. M. Q. Ewing the ladies of the Northeast Mississippi Thirteen Counties Auxiliary held their quarterly meeting September 8 in Amory. The president, Mrs. Stanley A. Hill of Corinth, urged the members to enroll in nutrition classes, enter the Hygeia contest, make honor rolls of the doctors in the service, and keep in touch with the wives of medical men who have gone with their husbands.

The program included two honored guests, Dr. Shelton Horsley of Richmond, Va., and Dr. Seale Harris of Birmingham, Ala., both of whom placed importance on the work doctors' wives can do in enlightening the public. Dr. Horsley emphasized the control of cancer. He showed that there is a responsibility of keeping up the morale of those who have the disease; there are superstitions to overcome; there is the all-important factor of getting the disease discovered and treated early.

Dr. Harris discussed foods, with special attention to the vitamins. Concisely and with as much brevity as possible he divided them A, B, C, D, listing the foods containing quantities of each vitamin. He also made comparison of the physical fitness of our armed forces in World War I and the present war.

Mrs. J. Rice Williams expressed the appreciation of the group to Mrs. Ewing and the Amory doctors' wives for their courtesy and gracious hospitality.

After a group of piano selections by Mrs. Goodrich of Amory, the hostesses served tea with little sandwiches and cakes.

EXECUTIVE BOARD MEETING

The state president, Mrs. V. B. Philpot of Houston, has announced a meeting of the Executive Board, to be held October 7 in Jackson. Members are reminded to have their reports and plans for work ready. They will be notified of the definite time and place of meeting.

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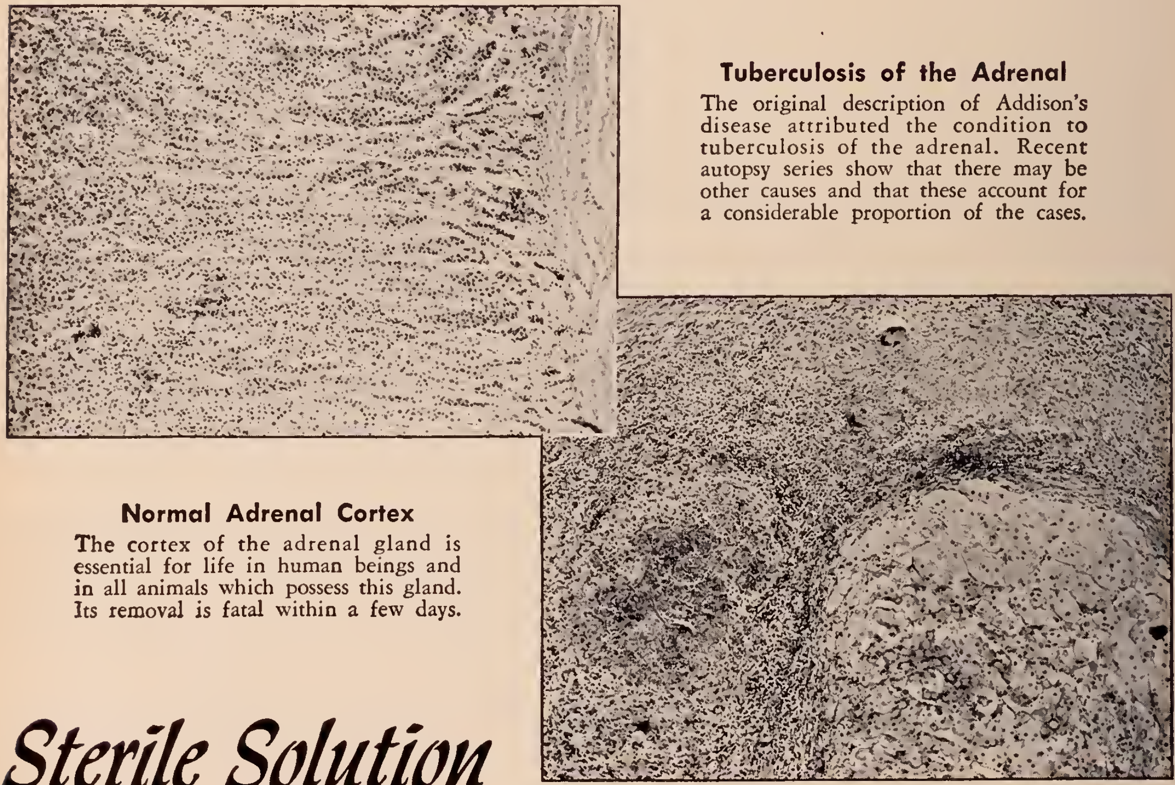

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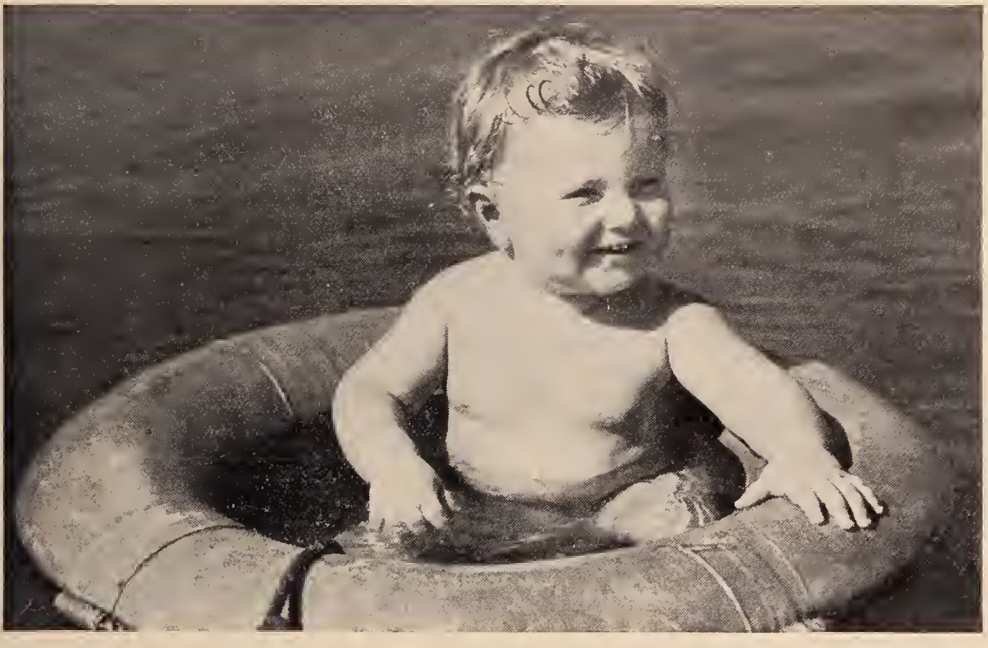

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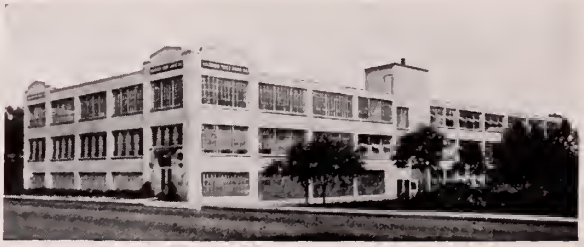

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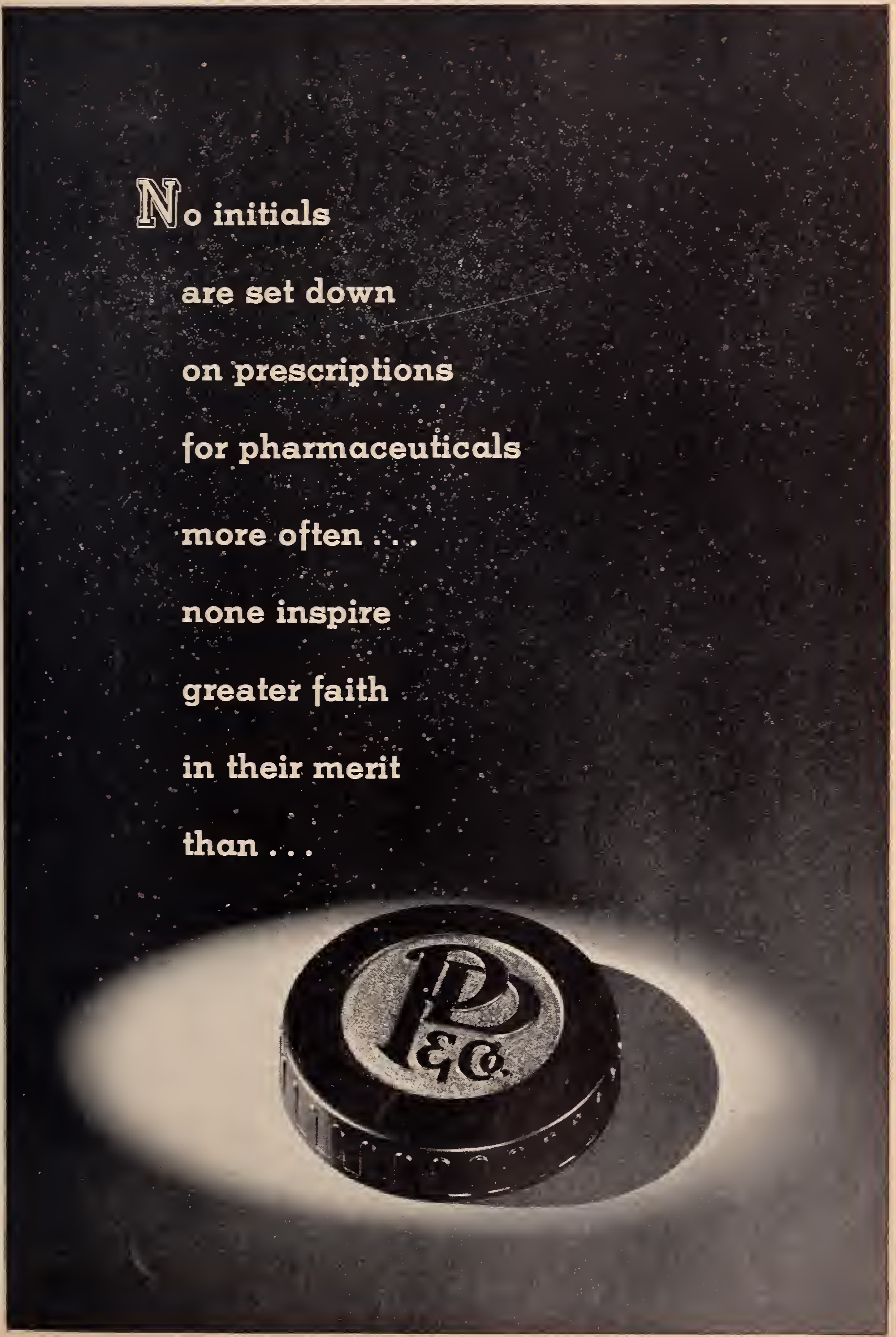
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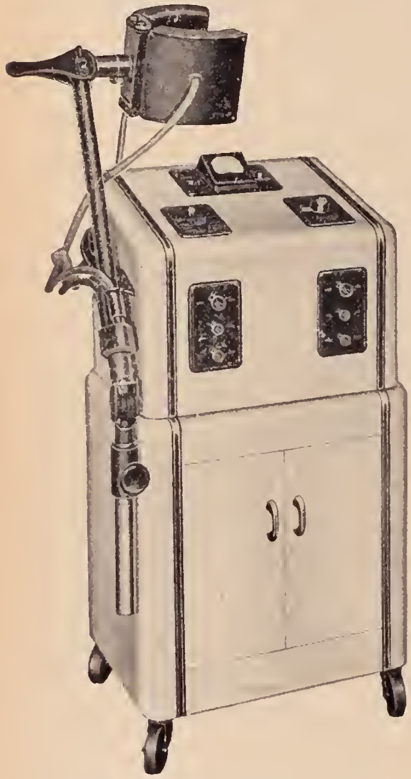

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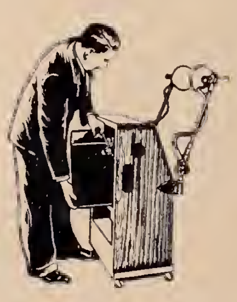

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[1] *Fauley, G. B.; Freeman, S.; Ivy, A. C.; Atkinson, A. J., and Wigodsky, H. S.: Aluminum Phosphate in the Therapy of Peptic Ulcer, Arch. Int. Med. 67: 563-578 (March) 1941.*

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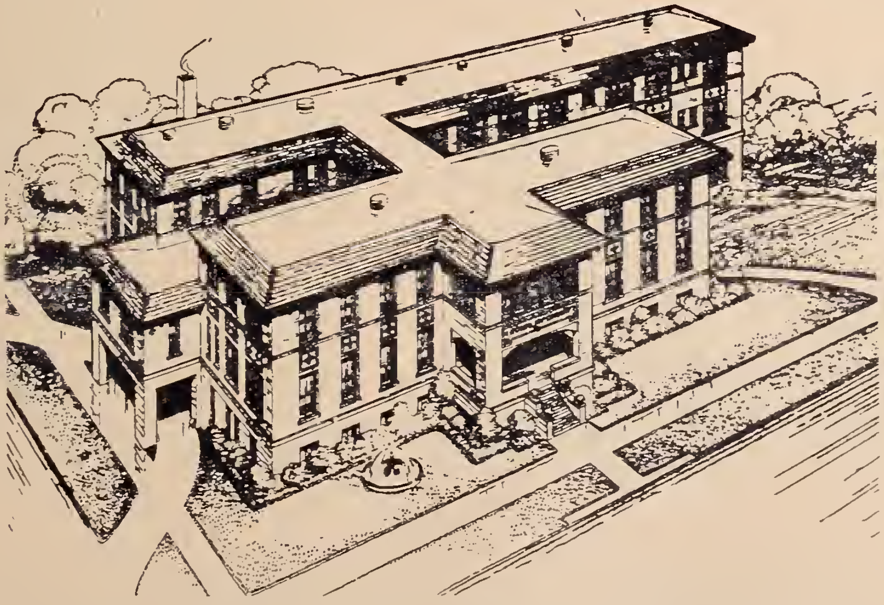

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THE ART OF DOING THINGS WELL

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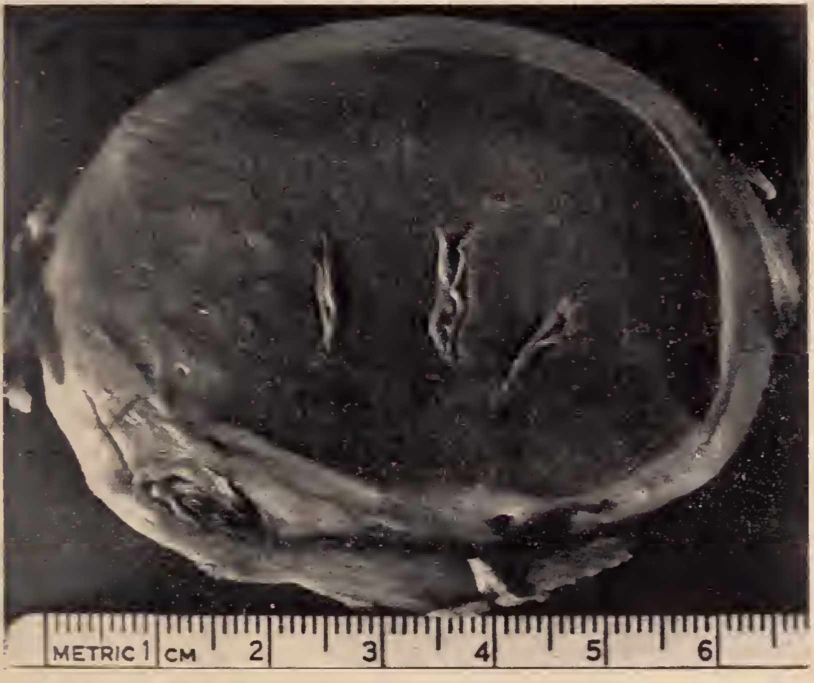
PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U.S.A.

Nature of Arterial Hypertension*

IRVINE H. PAGE, M.D
Lilly Laboratory for Clinical Research, Indianapolis City Hospital
INDIANAPOLIS, INDIANA

ARTERIAL HYPERTENSION is now the leading cause of death, outstripping by far even cancer. So prevalent has been the belief that it is merely a phenomenon of aging, and that it is a necessary compensatory reaction to insure adequate flow of blood through arteriosclerotic vessels, treatment based on understanding of its etiology has all too seldom been attempted. In short, we have been misled into that most abhorrent of doctrines—the acceptance of what was believed inevitable.



Typical example of the perinephritic scar resulting from the application of cellophane or silk to the parenchyma of the kidney.

Hypertension is indeed a clinical sign and not a single disease entity. It is either caused by or associated with at least fifty-nine morbid states. Many of these may be recognized and cured where proper treatment is instituted. Yet most hypertensives suffer from the essential or malignant variety and neither the etiology nor treatment are known with certainty. While there is no certainty about them, there is a great deal that is known. In what I have to say you will recognize that it represents one point of view and, for the most part, the work of only one group of investigators concerned with this problem. In it are carried all the enthusiasms and biases inherent in single groups, and by the same token the advantages of a more unified concept of hypertensive disease.

An outline will be presented, leaving for you to fill in the details from the literature (1-5) as your interest dictates.

MECHANISM

The study of hypertension has been greatly intensified and broadened since the introduction by Goldblatt of a satisfactory method for producing it in animals. We have extended this by use of cellophane or silk to produce a perinephritic scar, which by its slight constriction of the parenchyma of the kidney results in hypertension. The method has proved very practical in dogs, rats and rabbits. The principle concerned should call the clinician's attention to the fact that injury to or compression of the renal parenchyma causes hypertension just as does compression of the renal arteries. Wilm's tumors, hematomata, etc., furnish such examples.

---

*Delivered at the fifty-seventh annual session of the Mid-South Postgraduate Medical Assembly, Feb. 10-13, 1942, Memphis, Tenn.

Hypertension in both animals and most patients appears to be due to increase in effective peripheral resistance and to augmentation of the force and efficiency of the heart beat. Extensive studies have shown that the nervous system is only secondarily concerned in this increase of resistance and consequently with the genesis of most cases of hypertension, though in some its importance may be much greater than in others. The endocrine system also plays a role which is not usually vital, though in many examples highly significant. In short, the nervous and endocrine systems seem responsible chiefly for maintaining the body in such a state that it can react to the chemical system which we believe, for the present at least, to be chiefly responsible for essential and nephritic hypertension.

The substances, which on the basis of contemporary evidence, seem most likely responsible, are contained in normal kidneys (renin) and in blood (renin-activator). Renin alone cannot cause a rise in arterial pressure, but when it is allowed to interact with a pseudoglobulin-like substance in blood called renin-activator, a third, strongly pressor substance results. This substance has been crystallized and named "angiotonin."

Angiotonin exhibits many physiological properties which suggest that it, or some closely allied substance, actually causes arterial hypertension. These properties are:

1. It elevates pressure without reducing peripheral blood flow significantly. Obviously this is important since hypertensive patients are usually ruddy or at least do not have cold, pale skin as observed when such pressor substances as adrenalin or pitressin are injected.

2. Angiotonin when injected into human beings or dogs reproduces the intrarenal hemodynamic changes characteristic of hypertension itself. These changes are maintenance of glomerular filtration with reduction of renal blood flow. They appear to result in greater or less degree of constriction of the efferent glomerular arteriole. The extent to which blood flow is reduced will, of course, depend on an equilibrium struck between the mean systemic arterial pressure and the resistance to flow of blood in the kidneys. Ischemia may or may not be present. It is not necessary for the occurrence of hypertension.

3. Angiotonin causes increase in the force and efficiency of the heart beat and some constriction of the coronary vessels in perfused hearts. When injected into human beings, rise in venous pressure, reduction in vital capacity, and decreased cardiac output occurs. Except for the rise in venous pressure, these results fit well with what might be expected of a substance responsible for hypertension.

4. Both renin and angiotonin, as well as a third vasoconstrictor substance, are found in the renal blood of hypertensive patients and dogs. In the peripheral blood a substance which has some of the properties of angiotonin is found but which in other respects is distinctly different. It also appears to originate from renin because when renin is injected intravenously this vasoconstrictor is found in the peripheral blood.

5. The pressor action of angiotonin is not abolished by pithing an animal, by injection of cocaine or ergotoxin. Clearly the central nervous system is not necessary for its action.

6. Angiotonin causes no symptoms when injected into patients, other than occasional headaches similar to those occurring commonly in hypertensives and consciousness of the increased force of the heart beat.

It is clear that angiotonin has many unique qualities suggesting its participation in the genesis of arterial hypertension both in animals and man, but nothing could be more foolhardy than to claim that the proof is yet sufficient.

A word might be said at this point about the use of the term renal ischemia in connection with the production of experimental hypertension. Actually there is little or no evidence to show that ischemia is a necessary condition for the production of hypertension. The rate of blood flow in the kidneys is the product of mean arterial pressure and of peripheral resistance. If, with increased resistance, there is a corresponding increase in pressure, no reduction of flow need occur. Now it should be recalled that the initial effect of arterial compression by a clamp is reduction of pulse pressure distal to the constriction, while mean arterial pressure and, therefore, blood flow, remain unchanged. Hypertension in dogs has occurred under such circumstances, suggesting that ischemia of the renal tissue is not a necessary condition for it to cause arterial hypertension.

When isolated kidneys are perfused with blood, no renin or angiotonin is liberated so long as the pulse pressure is normal. But sharp reduction of pulse pressure, or more simply, the conversion of a pulsatile to a continous flow of blood, leads to abundant liberation of these substances. Ischemia need not occur even though angiotonin causes renal vasoconstriction because at the same time it raises mean systemic arterial pressure.

The reason pulse pressure might be reduced in hypertension is not certain. One immediately thinks of the alterations in the afferent arterioles and the juxtaglomerular apparatus which are so commonly observed in this disease.

INHIBITION

Normal kidneys appear to contain a substance inhibiting the action of the angiotonin vasopressor system which we have just described. How specific this is we do not know. The evidence for the occurrence of this inhibitor is:

1. Nephrectomy greatly increases the sensitivity of animals to angiotonin. This suggests that a source of some substance which inhibits the action of angiotonin has been removed.

2. When one kidney of a dog has been wrapped in cellophane or silk or the renal artery constricted, the hypertension which follows can be hastened in its appearance and intensified by removal of its normal fellow. It has been suggested that normal renal tissue destroys pressor substances.

3. Injection of renin appears to cause the release of a substance inhibiting its action.

4. If angiotonin is mixed with plasma from a nephrectomized dog and perfused through a rabbit's ear, the same heightened vasoconstrictor action is shown, just as in the intact nephrectomized dog. The "sensitivity" has been transferred and hence must be humoral.

5. The hypersensitivity to angiotonin in nephrectomized dogs is abolished by large transfusions of normal blood. Normal blood probably contains an inhibitor arising from the kidneys.

6. Kidney extracts actively destroy angiotonin and this is the basis of one method we employ for assay.

Extracts of kidneys have been prepared by Grollman, Harrison, Williams, and by us, which seem effective in reducing arterial blood pressure. Their extracts have usually been given by mouth, and it is one of their important contributions to have demonstrated its effectiveness by this route. Our work has been done exclusively by injecting purified extracts intramuscularly or subcutaneously.

The results of the past two years' study may be briefly summarized as follows:

The arterial pressure of hypertensive dogs and rats is consistently lowered within 4 to 10 days when enough potent extract is given. This is from an experience with five hundred or more hypertensive animals. There is marked variation from one animal to another in the amount required to reduce arterial pressure just as in patients. If extract is discontinued, the blood pressure usually but not always rises to its initial level.

The malignant syndrome in animals is usually readily overcome by treatment. Disappearance of ocular hemorrhages, detachment of the retina, and hemorrhages in the gut is particularly striking.

To date 35 patients have been treated, of whom 23 suffered from malignant hypertension and 12 from essential hypertension. Five of the patients with the malignant syndrome are now dead. No attempt has been made to employ our best extract continuously in all patients. The fact must be faced that ours is a clinic for experimental investigation. Extracts prepared by many different processes have, therefore, been used. Some have been poor and some good. As investigators we cannot afford always to use what we think to be the best extracts.

The results show, to my mind, that kidney extract can beyond doubt lower arterial pressure—especially the diastolic—in patients with essential or malignant hypertension. The lowering of pressure is accompanied by betterment in the clinical status of the patient. Regression and in most cases disappearance of the retinal changes characteristic of malignant hypertension occurs early in the course of treatment.

Evidence has been obtained that extract causes relaxation of the efferent arteriole in the kidneys with rise in renal blood flow. We interpret this as beneficial and contributing to the evidence that the inhibitor is, in fact, striking at the nub of the mechanism of hypertension. This is, however, not proof and tells us nothing as to the "specificity" of its action.

It is of interest that when the blood pressure is reduced the output of the heart is increased. Most hypertensives have a normal or reduced cardiac output.

These good effects are accompanied from time to time in some patients by mild to severe systemic reactions to extract. Animals have not exhibited these reactions, and some of the patients also do not exhibit them, but a few are extremely sensitive, and it has been necessary to prepare extracts from sheep rather than the usual pig kidney. Small success has been achieved by desensitizing such patients. It is our belief that the reactions are caused by protein impurities and that as the extracts become more purified, they will become less severe. Indeed, in the past months they have become less severe and much less common.

I would not like to give the impression that therapeutic agents for hypertension are already at hand. No method suitable for large scale productoin of purified extract is as yet available. Since a continuous supply is necessary, it is clear why it is inadvisable to start treatment until this is an accomplished fact.

Adequate evidence suggests that the problem is a valid one and should recommend itself to those who would approach it as one for investigation. In the last analysis a treatment can only be established after its trial by the serious practitioners of medicine, and it must be our goal to make it ready for them.

TREATMENT OF HYPERTENSION

You may be interested in the opinions and convictions which we have drawn from a continuous study of a large group of hypertensive patients over the past 12 years.

Potassium thiocyanate has been employed in several hundred patients, keeping the level in the blood at from 8 to 14 mg. per 100 cc. Roughly one half of them exhibit definite, i.e. greater than 20 mm. Hg., fall in arterial pressure. If headache has been present, it is usually relieved. Indeed, relief of headache may occur without fall in blood pressure. Occasionally with the fall in pressure improvement occurs in the heart as indicated by slight reduction in size and reversion to upright of inverted T waves in leads I and II. In my opinion thiocyanate has a definite place in the management of hypertensive patients. When it should be used during the course of the disease is uncertain. It seems wise to postpone its use until the disease is established or until headaches become a distressing factor.

Often one is asked to prescribe treatment for early hypertensives and for those without symptoms. Aside from careful regulation of their lives, I have found the following mixture of some use. Perhaps it only satisfies the patient's desire to take something with conviction. If this is so, it fulfills the need admirably.

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Syrup hydriotic acid	0.48
Sodium bromide	16.0
Chloral hydrate	32.0
Muc. Acacia	30.0
Syr. Aurantia	160.0
Aq. dist. q.s. ad	240.0

The patient is advised to take a teaspoonful once a day and more if he feels nervous and upset. There are, of course, many adjuvants to the treatment of hypertension and their intelligent use often spells the difference between comfort and great discomfort for the patient. But this is not the place for a discussion of these.

It has seemed difficult for the medical profession to make up its mind about the surgical treatment of hypertension without undue emotion. This has in no small measure been due to the fact that the operations are not as satisfactory as claimed by a few and nothing like as bad as claimed by others, especially in the latter class have been those without personal experience in the matter.

Dr. George Heuer and I started a study of this question in 1934. These results have all been carefully documented and from these data our opinion drawn.[6,7,8] This documentation leaves others free to enquire into the validity of these opinions. Briefly we believe that the operation must not be so extensive as to cause a large operative mortality. We are not convinced that there is any single method for the selection of patients suitable for operation. When our work was first begun, no selection whatever was used and in this way we showed to our satisfaction that often patients with the malignant syndrome exhibited indubitable signs of reversal of the morbid process in the blood vessels with probable prolongation of their life span. Regression of the eyeground changes occurs spontaneously but in my opinion this is a rarity. This is excepting those patients who have had specific toxemia of pregnancy, when it is common. We observed regression of eyeground changes in a sufficient number of patients with malignant hypertension following operation to associate the two.[9] These results seemed to be received with skepticism. Subsequently, sufficient evidence has accumulated to leave little doubt about the profound effect of some of these operations on even such morbid changes as observed in the eyegrounds.

Most sympathectomies must be regarded as palliative rather than curative. Occasional patients have been seen in whom the blood pressure has remained within the usual normal limits for a year or more. This should not however be anticipated as the usual. If the patient can be given from three to six years with lowered blood pressure and comfort, I am convinced that the span of life will be increased and that the treatment will have been amply justified.

I believe that the Smithwick procedure is the one of choice at the present time. The revised Adson operation seems to be satisfactory as well. I have had less personal experience with it.

Let me leave the subject with a word about the mechanism by which the results are achieved. Whatever the real mechanism, it is not an increase in blood flow to the kidneys. It is curious that many of the papers dealing with the surgical treatment of hypertension state categorically that increase in blood flow occurs though not a shred of evidence has been produced to show this to be so. Apparently the truth of the matter is that as measured by inulin and diodrast clearances no change occurs[10] and even the ability to concentrate urine does not change.[11]. As we pointed out, denervation of the kidneys does not cause any obvious alteration in their functional capacity. They are organs with extraordinary autonomy.

More than ever an exacting analysis of the nature of the disease in each patient is vital before therapy can be rational.

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The Inner World of the Child

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THE CHILD'S INNER world is full of color and feeling. It is simpler than the world we know and sometimes happier. The child has little information, but a great deal of curiosity. This curiosity is usually an expression of his need for learning. Sometimes, it can be an expression of the child's anxiety or his fears.

The child imitates and acquires. He learns by doing and imagining. He wants to love and be loved. He is only vaguely aware of what adults see in the world around them. He knows the difference between pain and pleasure, having and not having, coming and going away; death, to him, means little more than going away.

The child has many needs of which he may not be aware, and often he finds it hard to make his wishes clear. Thus, he must depend on the adults around him to understand and take care of his needs in a healthy way.

Next to himself, in the inner world of the child, the mother and father—or their substitutes—are most important. They are king and queen of the child's court, the mountains on both sides of his valley. In the simplicity of his inner world, the parents loom like giants or heroes toward whom he has affectionate and anxious feelings. Parents often forget this; some never know it.

Between the external situation of his life and his internal emotions, the child has to strike some sort of balance or make some sort of adjustment. But there is always a gap between what he wishes and what he gets from reality, and that gap, or deficit, is what fantasy fulfills. Whether it is made up in play, by storytelling, in little private dramas or in daydreaming, his fantasy life is always significant. It shows the direction in which the wishes go, as well as the failure of environment to provide what the child wants. The fantasies of a child are naturally fantastic. When they become real, they may be the accomplishments of the world. Fantasies and only fantasies explain the pyramids of Egypt, or an empire. Sometimes, the child's dream is more important to him than reality, or anything else in the world, and far more beautiful. It is natural for him to have daydreams. Don't laugh at him, or you may kill the goose that lays the golden egg. At some time or other in childhood, every girl is Cinderella or Snow White, and every boy is George Washington or the Dutch lad who held his finger in the hole in the dike.

The child does not understand the outer world as we understand it, but he understands it by what is called *intuition*, especially how it feels toward him; for example, it is said that children and dogs sense instantly how strangers feel toward them. Usually, children know without being told how those around them feel. Children are not so unaware of things as they may appear to be; as Wordsworth said, they are "not in entire forgetfulness, and not in utter nakedness."

If there is hostility or financial tension in a home, children sooner or later are aware of it. If there is pain or suffering or insecurity around them, they know about it. If there is conflict between parents, children sense it; they do not need to be told. They soon learn to adjust themselves to it or take advantage of it. On this account and for the good of the child, if for no reason, parents should present a united front to their children, and, whenever possible, should keep in fair agreement. Otherwise, the child quickly learns to play one off against the other, and from the point of view of discipline such a child "sits down between two chairs." That is how he learns to feel conflict" in himself, and how to be undisciplined and disorganized, for a child takes on a part of the personality of each parent.

If a parent is disturbed or hurt, this can be reflected in the child's conduct, play or schoolwork. One teacher who has what I call "emotional intelligence"' said to me recently, "When a child we know to be bright begins to do poor work, we always look to see what is wrong at home." This point has been emphasized by Dr. Douglas A. Thom, director of the Habit Clinic for Child Guidance in Boston. Dr. Arlie V. Bock, who has made similar observations in his study of normal college students at Harvard, believes that when students who have good minds fail to do good work, it is usually the reflection of some inner emotional problem or a disturbance at home.

The child is aware of his own body, which is very important to him. He begins early to understand what he is told about it. He remembers part of what he is told, and sometimes he can use that information with a kind of inborn intelligence.

Children recognize and appreciate the truth. They may ask either direct or indirect questions. It is essential for the parent to be aware of the possibilities of indirect questions, and to try to satisfy the child's curiosity, but the parent should not be overconscientious and answer questions that have not yet arisen in the child's mind. This confuses and overstimulates the child. A single question may need to be answered many times, since the child's growing understanding gradually takes in different phases of the answer.

Very close to the heart of a child is his awareness of his own sex. This should be treated with conscious respect. Adults can do a great deal to disturb the emotional development of some children, through misinformation or teasing. I know one person whose usual approach to a child (if it is a boy) is to say, "Oh! what a pretty little girl!" This always gets a rise out of the child, which the adult enjoys. But sometimes the child is mortified or enraged, and this may be only fuel to the flames of vanity in a person who likes to show off or be cruel.

It is normal for children to exhibit and, in childish ways, to practice unkindness. But as they grow up and learn other pleasures, normal people tend to give up childish behavior. Small boys are naturally rough and aggressive, but modern nursery-schools are doing a great deal to show parents how to deal with these impulses in a constructive way. Well-run nursery schools have much to offer parents as well as children, and a tactful, intelligent kindergarden teacher can do much to help the child bridge the gap between home and primary school, and thus make happy adjustments to the demands of a group of children of his own size and age and general capacity.

Next to kindness, the child's greatest need is to be told the truth—to be given information he can use—again and again. This is how the child gains intellectual security. After the truth, the child needs fairness in all dealings with him. Fair treatment means more to the child than many people realize. Some of the most violent deeds in the world have been done as the result of a hurt or defeated sense of fair play. Children understand that. A woman told me once that Lincoln's Gettysburg address always brought tears to her eyes when she heard it. I asked her why. She said, "Because it makes me feel he was so kind, and so *fair*!"

To boil it down to a few words, then, What does a child need to make his inner world well organized, his efforts well directed, his expenditure of energy balanced and his whole personality free from conflict and unnecessary suffering? What can he acquire from the world around him, including his parents? Ideally, a good constitution and healthful living conditions, an opportunity to play and to learn to work. Practically, the child needs what the adult needs, only more of it. There is no limit to the amount of affection a child can take, short of spoiling him. He needs to be praised, guided and reassured. Parents should try to instill self-reliance and not teach children to fear, as some silly people do. A child needs science, in its elements, and art. Show a child a mineral, a sea shell, a fossil, an insect or an animal. Notice the pleasure it gives him. Or show him a picture, a statue, a poem or a place, and tell him the story of it. He will enjoy that and learn from it. A child's attention is easy to gain but not so easy to hold, for his span of attention is short. However, all the time you are speaking to a child his brain is recording what you say, and his spirit is being fed by it.

All the time you are with a child you are giving him facts, experiences, good or bad suggestions, and beautiful or ugly images. It is out of this material that he builds the inner world of his mind. In this inner world, his self (or ego) lives. It is a self that the world may later come to know happily or unhappily. It is this conscience this self that has to deal with his emotions and his conscience and with the outside world. For a child to grow and function best and cope with what he has to meet to grow up and go through life, he needs health, protection, security, affection, guidance and discipline, a chance to develop independence and real opportunities to be happy and useful.

Use of Sulfaguanidine in Typhoid and the Dysenteries*

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THE PURPOSE OF this paper is to present a series of six cases of typhoid fever and four carriers that were treated with sulfaguanidine in Sunflower County during 1941. A brief review and discussion of the literature on the use of the drug in typhoid and the dysenteries is deemed advisable.

DYSENTERIES

Sulfaguanidine (sulfanilylguanidine) was first prepared by Marshall and his coworker[1] at Johns Hopkins University while trying to find a drug less toxic than sulfapyridine in the treatment of pneumonia. It was noted at this time that although it was fairly soluble in water, there was poor absorption from the intestinal tract. This suggested its possible use in infections of the gastrointestinal tract. In vitro the drug had an inhibitory and bactericidal affect against E. coli, Shigella dysenteriae and paradysenteriae, confirmed in vivo in mice by the reduction of coliform organisms in the feces of animals which were fed the drug.

Clinically another very important point was noted on these animals, that is, repeated small doses produced higher blood levels than single doses of equal amount.

The first clinical trial was on a small group of children in the wards of Harriet Lane Home of Johns Hopkins Hospital in 1940[2,3]. Seventeen proved cases of acute bacillary dysentery were treated.

In seven cases, six classed as seriously ill, wherein the treatment was given on or before the third day, the results were excellent. The temperature was normal in forty-eight hours or less, marked general improvement in twelve to thirty-six hours, diarrhea checked in one to three days when the drug was given on a four-hour schedule, and in six to eight days when on an eight- to twelve-hour schedule. Dosage given initially was .1—.2 grams per kilo body weight, followed by .1 gm. per kilo every eight to twelve hours, or .05 grams per kilo every four hours thereafter. Other supportive treatment was given as indicated; feeding as tolerated, preliminary starvation when toxic, distended and vomiting; parenteral fluids for dehydration and transfusion for dehydration and transfusion for anemia.

The results in the ten children treated between the fifth and fifteenth day of the disease were extremely variable, the general impression being that the influence of the drug was beneficial but not dramatic. The toxicity of the drug was reported as low.

Lyon[4] reported a series of twenty-three cases of dysentery treated with sulfaguanidine using twenty-three similar carefully chosen controls. The control group ran a uniform course of a temperature of 102° to 105° in the first week, severe bloody diarrhea, nausea and vomiting, abdominal cramps and tenesmus; the second week a lower temperature, diarrhea more purulent than bloody, loss of weight and strength; third week convalescence.

In the treated group, five ran the same course as the controls and eighteen were markedly benefited, showing a rapid fall in temperature to normal within twenty-four to forty-eight hours with general clinical improvement and reduction in stools within three days. The conclusions were that the drug was more effective in the first three days of the disease and that the reactions were less toxic than those seen in the other sulfa drugs.

Numerous other workers have reported the use of the drug in the dysenteries, namely Suarez and Morales in Porto Rico with seventeen cases and thirteen controls, Ching in Tennessee, and several others. All reports have been generally favorable.

As to the other sulfonamide drugs, Ching in Tennessee reported twenty-three adult cases treated with sulfathiazole with good clinical results. Warr's experience at Camp Claiborne, Louisiana, with 102 cases in the troops of the Flexner type of infection reports that he used both sulfaguanidine and sulfathiazole and was of the opinion that the latter drug was more effective.

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*Read before the thirty-ninth semi-annual meeting of the Delta Medical Society, Rosedale, Miss., April 8, 1942.

In a recent personal letter from Dr. Perrin Long, whose work in this field has been outstanding, he stated that reports from India indicate that sulfaguanidine is effective in the treatment of cholera and severe Shiga type dysentery.

Several physicians in Sunflower County have used the drug in their dysentery cases; in every instance the results have been excellent. However, we have hesitated to evaluate these statements in that there has been no close follow-up or confirmatory laboratory evidence. Plans have been completed to do feces cultures for both dysentery and typhoid at our local health department laboratory at Moorhead. It is hoped that this service will be of some aid in the further evaluation of this work.

TYPHOID AND TYPHOID CARRIERS

The reports on the use of the drug in typhoid fever and in the typhoid carrier state have been based on scattered isolated cases and are inconclusive. The workers at Johns Hopkins reported the use of sulfaguanidine in one case of typhoid fever with no improvement. Levi and Willen[5], in 1941, reported curative results with the drug in one typhoid carrier.

More recently Saphir[6], et al, in the J. A. M. A. reported an extensive study of the typhoid carrier problem, wherein they treated five carriers with sulfaguanidine with negative results. Sixty-five carriers were treated with soluble iodophthalein. In thirty-two per cent of these, the bile was sterilized and in 7.6 per cent the stools were freed of the bacilli.

The typhoid fever and typhoid carrier problem although diminishing in this country is one that merits our attention in that no logical control has been suggested except by legal measures. Cummings, in 1930, estimated that there were 671 carriers per 100,000 population in this country. Approximately two per cent of all cases eventually become carriers, and we can reasonably assume that the present residual incidence of typhoid fever is in a large part due to these carriers.

In Sunflower County, the average annual incidence of typhoid cases for the past five years has been thirteen, bacillary dysentery 400 to 500 cases annually, and there are ten registered typhoid carriers in the county.

OBSERVATIONS

I. TYPHOID FEVER CASES

The six cases of typhoid fever in this report were seen through the cooperation and courtesy of local practicing physicians in Sunflower County, all of whom have had twenty to thirty years of experience with clinical typhoid. Laboratory work for urine and stool cultures, blood cultures and Widal tests were done at the State Board of Health Laboratory in Jackson. Incidental laboratory work such as malaria smears and urinalyses were done at the local health department laboratory.

CASES

1. W. T. M., B., age 10, Rept. 7-12-41—visited 7-13-41.

History of onset of illness on 6-26-41 with general malaise, fever and upset stomach, no diarrhea. Treated for malaria up to time of visit which was 16 days after onset. Temp. at first visit 104 degrees—acutely ill. Suspected typhoid which was verified by pos. Widal 1:1280 and pos. feces—blood culture neg. Rx.—recommended sulfaguanidine on first visit—4 tablets stat—2 tablets q. 4 hrs. x 5 days—estimated number taken 24 tablets—180 grains.

Course: Progressive daily improvement—to a normal temperature on 7-31-41—approx. 2 weeks after beginning drug.

2. B. T., M., B., age 6, Rept. 7-21-41—visited 7-21-41.

History of onset of illness on 6-22-41 with fever, chills and general malaise. Treated for malaria from 7-7-41 to 7-21-41. Child when first seen approx. 1 mo. after onset was extremely ill, emaciated, abdomen markedly distended and passing tarry stools. Temp. first visit 105 degrees. Diagnosis of typhoid verified by pos. blood culture and pos. Widal 1:640. Urine and feces never pos. Rx. sulfaguanidine 4 tablets stat—2 tablets q. 4 hrs. x 5 days—estimated number taken . . . 30 tablets or 225 grains.

Course: Slow but exeremely satisfactory improvement to a normal temperature on 8-21-41—3 wks. after beginning drug.

3. E. J., B., F., age 7, Rept. 8-1-41—visited 8-2-41.

History of onset of illness on 7-15-41 with diarrhea, fever and general malaise. Treated with coco-quinine for 2 weeks. Diagnosis of typhoid verified by pos. stool culture. Rx. sulfaguanidine, 4 tablets stat, 2 q. 4 hrs. x 5 days, estimated number taken 30 tablets—225 grains.

Course: Progressive improvement to a normal temperature 10 days after beginning drug. Diarrhea checked in 4 days.

4. J. L. R., M., B., age 4, Rept., 8-6-41—visited 8-6-41.

History of onset of illness on 8-2-41 with chills, fever, N and V and headache. Treated for malaria with no improvement. When first seen temp. 104 degrees—acutely ill, distended abdomen. Diagnosis of typhoid verified by pos. stools. Rx. sulfaguanidine—4 tablets stat., 2 tablets q. 4 hrs. x 5 days—amount taken very questionable—estimated at about 20 tablets or 150 grains.

Course: Slow progress to a normal temp. 16 days after beginning drug.

5. W. M. A., B., F., age 7, Rept. 8-9-41—visited 8-9-41.

History of onset of illness on 7-13-41 with fever, headache and constipation. Diagnosis of typhoid confirmed by pos. Widal 1:320 (no immunization). Other tests negative. This case was interesting in that the child was treated wih sulfathiazole from 8-2-41- to 8-9-41—one tablet q. 4 hours D and N with no improvement. On 8-9-41 the child was put on sulfaguanidine 1 tablet q. 4 hours D and N and rec'd. a total of 360 grains in 10 days.

Course: Slow improvement to a normal temperature on 8-23-41—two weeks of drug was started six weeks from onset—opinion very little if any effect from drug.

6. S. A., M. B., age 4, Rept. 8-13-41.

History of onset of illness on 8-2-41—(3 wks. after bro. case No. 5 became ill)—onset with chills, fever, no diarrhea. Diagnosis verified by pos. blood culture and pos. Widal 1:640. Rx. sulfaguanidine—4 gr. q. 4 hrs. D and N to an estimated total of 360 grains in 14 days.

Course: Excellent improvement to a normal tempature on 8-23-41—3 weeks after.

II. CARRIERS

The four carriers used in this study were chosen after careful interview by the health officer to determine their cooperativeness. All had been registered with the health department for a period of three to four years with numerous positive cultures in all instances.

The plan of the study was as follows: Feces and urine cultures were taken on two consecutive days before beginning the drug. On the first day of treatment eight tablets were given stat, after which five tablets were given every four hours until a total of 120 tablets or 900 grains were given. Two specimens of urine and feces were submitted during the week of administration. Two specimens per week of both urine and feces were submitted for three weeks after the treatment. Plate counts were made on all specimens taken during the period of observation.

1. M. K., B., F.,—age 52.

History of disease in 1918. Discovered July 14, 1936, on investigation of a household case. Stools repeatedly positive since—urine always negative.

2. I. S., B., M.,—age 68.

History of disease in 1927. Discovered May 15, 1938, while investigating a household case. Stools persistently positive—urine occasionally.

3. W. S., B., F.,—age 17.

No history of disease. Discovered July 27, 1938, while investigating typhoid death of brother. Stools repeatedly positive—urine occasionally.

4. F. P., B., F.,—age 32.

No history of disease. Husband had disease in 1937 at which time she was found to be a carrier. Stools repeatedly positive—urine occasionally.

COMMENT

It should be noted the typhoid cases were in all instances young children, age group 4-10 in rural negro families. In many instances the isolated location made adequate control and follow-up a difficult problem. All of you here have practiced in this type of population and so can appreciate that little assurance can be given that the drug was taken as prescribed. However, we could not help feeling that the cases were worth reporting in view of the enthusiastic attitude shown by the attending physician on the general clinical improvement shown in these children when compared to their previous experience with the disease.

We would also like to point out that the treatment was started rather well along in the disease, and since the time element is of such dramatic importance in the dysenteries, it would be interesting to note the effects of the drug when started in the earlier stages.

With regard to the dysenteries, all evidence indicates that we have a valuable therapeutic agent in sulfaguanidine; however, further work should be done on the specific effects on the various bacteriologic types of the disease, as well as on the dysentery carrier state.

The typhoid carriers were carefully chosen and interviewed with daily follow-up by the health department staff. The results here are in our opinion additional valuable negative evidence, all four carriers showing persistently positive cultures throughout the period of the study and on several specimens taken subsequently.

SUMMARY AND CONCLUSIONS

1. Present reports seem to indicate that sulfaguanidine is of decided therapeutic value in the dysenteries. Further work should be done on the different bacteriologic types as well as the dysentery carriers.

2. The use of sulfaguanidine in typhoid fever merits further trial, particularly under a strict institutional control.

3. The drug in four typhoid carriers had no effect on the typhoid carrier state.

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The Windy City *Breeze* has a "short-shoot":

"Injury," said the workman.
"Inattention," said the foreman.
"Inflammation," said the physician.
"Incurable," said the hospital.
"Incredible," said the mourners.
"Interred," said the undertaker.
"In peace," said the tombstone.

Osteoma of the Frontal Sinus*

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BENIGN HYPERTROPHIC changes of the skull are brought to the attention of the otolaryngologist because of the fact that they may involve the paranasal sinuses. These hypertrophic changes are thought of as being neoplastic and are diagnosed as osteomas. From the pathologist's point of view this term of osteoma is usually given to many forms of overgrowth of bone. It is a clinical entity generally to otolaryngologists. To them it is a growth which originates in the bones of the nose and sinuses, encroaches on the cavities and gives rise to symptoms of deformity, displacement, obstruction and pressure.

These tumors are uncommon. Handousa reported in 1940 only eighteen osteomas out of 840,000 patients seen during the last seven years at the nose, throat and ear department of Kasr-El-Aing Hospital in Cairo, Egypt. In 1928 Harris tabulated 117 cases after a careful search of literature. Beck estimated 180 cases in 1930. Carmody in 1935 unearthed 139. Carmody stated in a discussion of Hempstead's paper in 1938 that he had found 22 cases in the literature since his report. He felt at that time that a great many of these cases seen had been reported.

Harris and I recently reported three cases of benign osseous tumors of the maxilla. We chose to call these tumors ossifying fibromas, an accepted name, but many authors prefer to call them osteomas. Tumors of this type in the maxilla commonly involve the maxillary antrum, however they may also occur in the mandible.

Osteomas occurring in the mastoid area have been reported, and I had one such case not as yet reported. Another similar case is now under observation.

The two osteomas that make up the substance of this report occurred in the frontal sinuses, one in the frontal ethmoidal region. These two cases presented many of the classical signs and symptoms of osteoma of the frontal region. In addition, a third case of osteoma of the frontal sinus was encountered in a patient who suffered from a carcinoma of the antrum. In this case the osteoma had produced no symptoms.

Since osteomas involve the paranasal sinuses, it is often the duty of the nose and throat surgeon to remove them surgically. Occasionally in cases of osteoma of the frontal region, involvement of the dura makes collaboration of a neurosurgeon desirable. Cushing has reported such cases in which removal of the tumor has left a defect of the dura and has required closure of the dura with fascia.

Surgical extirpation of osteomas has been the treatment of choice. Ossifying fibromas of the maxilla have been treated with roentgen irradiation by Priest and Boies, and apparently the growth was arrested so that removal was not necessary. Tumors of the frontal sinuses, however, may present a different problem because the inner osteum of the frontonasal duct may be involved and a pyocele or mucocele may result. Hempstead has stated that the small osteomas discovered on routine roentgenograms of the sinuses need not be removed if they show no evidence of growth after periodic re-examination, but the larger tumors may involve the orbit or the cranial cavity and produce severe symptoms.

The incision and approach to one of our cases was through both eyebrows and an additional vertical incision in the mid-line of the forehead. The other case was approached through the fronto-ethmoidal incision. Both of our cases were extensive enough to cause wide exposure of the dura. Most osteomas are thought to be removable through the fronto-ethmoidal incision.

Spontaneous cessation of growth apparently does occur, and occasionally the tumor may break loose from its pedicle and the tumor is referred to as loose or "dead." Simpson and Williams have expressed the opinion that most such dead osteomas are still attached to bone and still capable of further growth. One of our cases might be designated as such a "dead tumor" because at removal it was literally lifted out of its bed and no positive attachment was found. The tumor from the history apparently stopped growing for a while then grew rapidly until its removal. Coates and Krauss were surprised at the rapidity of growth of a similar hard tumor. They had observed it for one year before removal. Their case at removal, however, was found definitely attached to the inner plate of the skull.

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 13 and 14, 1942.

The origin of osteomas is considered by Geschickter and Copeland and others to be from the periosteum. There is another theory that these tumors may arise from cartilaginous rests, but we have nothing to contribute to this academic question. It does seem that since osteomas are peculiar to those bones derived from membranes rather than from cartilage, the periosteal origin seems more reasonable.

The following symptoms considered to be typical of osteoma were present in one or both of the cases reported here:

1. Hard, immovable swelling of the frontal bones of a young adult, with deformity, displacement, obstruction and pressure.
2. Mucocele.
3. Slowly progressive course.
4. Roentgenographic evidence of circumscribed, dense, bony tumor.
5. Intra-nasal evidence of a mass in the ethmoid region.
6. Encroachment of the orbit and nasal septum.

In neither of our cases were there symptoms of central nervous system involvement. These symptoms, when they occur, are said to be dizziness, headache and epileptic seizures.

Osteomas are characteristically either of dense, hard, eburnated bone or more fibrous and gritty. It has been assumed that the more fibrous tumors are still in the process of formation and that the denser tumors are more completely developed and therefore are approaching a static phase. Clinical observation has not entirely borne out this assumption, but it may be roughly correct. Of the cases reported here, one tumor was of the hard variety; the other was soft with peripheral area or dome of hard bone.

Both patients reported here were negroes but reports in the literature indicate that the disease has been more frequently encountered in the white race. It is possible that because of the high proportion of negroes in Mississippi, we may encounter tumors of this type more commonly in the negro race than would be the case elsewhere.

Case Reports

Case 1.—A colored boy, W. J. C., age 13, was admitted to the Mississippi Baptist Hospital complaining of a "rock in his head," as mass or growth of his forehead. Onset was three years previously. He thought the mass stopped and later started growing rapidly. History otherwise essentially negative.

Examination revealed a protruding mass in the mid-frontal region. X-ray examination gave evidence of a tumor, apparently bony, of the frontal involving both frontal sinuses.

On January 23, 1937, operation was performed under ether anesthesia. An incision was made through both eyebrows over bridge of the nose. Another incision was made in the mid-line and vertically toward scalp. The periosteum was divided. The outer bony plate of the frontal was very thin and one area was absent. Normal bone around the tumor was removed and the tumor literally prized up and out of its bed. The tumor measured 2¾ by 2¾ by 1¾ inches. The inner place was absent and a large area of dura was exposed, about 1 inch in diameter. There was no associated infection. The wound was closed. The patient made an uneventful recovery. The patient has since been seen and is all right.

Case 2.—On March 1, 1938, a colored boy, W. B., age 18, was admitted to the Mississippi Baptist Hospital complaining of a slight deformity developing around his nose, right orbit and forehead. There was also a history of a fullness and dullness of feeling in the nasal and frontal area. The rest of the history was essentially negative.

Examination revealed a deformity, a lateral displacement of the orbit, intra-nasally. A mass could be seen and palpated in the right ethmoid region. This mass was encroaching on both the orbit and the septum. X-ray gave evidence of a large tumor involving the right frontal and ethmoid. The peripheral areas were of denser media, the central portions of rarer media.

On March 8, 1938, under ether anesthesia an external radial frontal incision was made through the right eyebrow down side of nose. After incising the periosteum a bony mass was found. This was opened. The wall was about 10 mm. thick. The mass was very large, almost the size of a baseball. There was considerable straw-colored fluid and many masses of bony tissue in the softer stages. The tumor was removed piecemeal, this being the best way it could be done. The nasofrontal duct area was left wide open into the nose. The large area or hole was packed from the nose. There was no associated infection. There was in this case, as in the first, no history of trauma.

On March 20, 1941, this patient was readmitted to the hospital. This time another external frontal was done because the nasofrontal duct had closed. After re-opening the area no new bone formation was found. There was fluid which had accumulated but no pus. The nasofrontal duct was made wide open again. At the present time he has no symptoms or complaints. Neither of the cases was given x-ray therapy.

Case 3.—This patient was a white male, age 52, who suffered with a carcinoma of the right antrum. The osteoma was discovered on routine examination of the sinuses by x-ray. It was not giving any trouble at the time. This man died of meningitis, following surgery and x-ray and radium therapy of his malignant antrum.

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DISCUSSION

Dr. Van Dyke Hagaman (Jackson): I had the pleasure of being present at these operations and a word of praise is due the essayist for the manner in which the cases were handled, not only during the operations but afterwards.

I have personally operated on two cases of osteoma of the frontal sinuses. Both have been recorded in the medical literature, but I will rehash here enough to say that one was of medium size and attached to the partition between the right and left frontal sinuses by a very small pedicle. It was mushroomy in appearance but the pedicle was extremely short, perhaps not over three millimeters. The second of these cases was an extremely large osteoma which displaced the frontal lobe of the brain backward more than thirty millimeters.

You recall the railroad superintendent who told his section foreman to be brief in reporting a wreck; the next report was, "off again, gone again, Flanagin."

The Value of the Early Institution of Pneumothorax After Diagnosis of Tuberculosis Made*

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PNEUMOTHORAX IS the oldest and by far the most satisfactory form of collapse therapy that we have in the treatment of tuberculosis. Its value is well established and really needs no extended discussion.

The problem of how early in the disease it should begin is still somewhat of a debated question. Many advocate a period of observation or watchful waiting of the time-honored trial of bed rest, nourishing diet and fresh air to see if improvement will come to the patient with a recently diagnosed case of minimal disease. The only place this may be justified is where the patient can be hospitalized and have the advantage of daily observation, repeated Roentgen examinations and sedimentation tests. Unfortunately only a limited few can avail themselves of this. Even then, a spread of the disease may occur and a small cavity suddenly develop along with adhesions which will present a satisfactory collapse. In the home this is much more prone to occur than in an institution because conditions are not as suitable for absolute rest as in the sanatorium.

Others, and I am one of them, believe that pneumothorax should be started when the diagnosis is made. If this is done in the minimal case a uniform and satisfactory collapse will result. The further spread of the disease is terminated. The patient is back in useful life and becomes an asset rather than a liability to family and community in a much shorter time. Pneumothorax at this stage brings about a higher rate of arrested cases than any other form of therapy. If a positive sputum exists, as it does in some minimal cases, it quickly becomes negative. With our better facilities for diagnosis, the recognition of tuberculosis in its minimal state is increasingly evident. The more frequent use of pneumothorax in these cases will lower our morbidity as well as mortality rate. The complications that sometimes result from pneumothorax are, at this stage, reduced to a minimum; in fact they are very rare.

Cutler has shown that in the moderately advanced stage the patient's chances of a cure are six times greater with pneumothorax than without. After reaching the moderately advanced state the percentage of satisfactory collapse decreases due to adhesions and cavitation. Even so, if it is at this stage when diagnosis is made pneumothorax is the first choice of collapse therapy. The majority of cases diagnosed by the general practitioner at present fall into this group. If collapse, when attempted, is only partial due to pleural adhesions, then the unsatisfactory collapse may be converted into a satisfactory one by pneumolysis and the disease arrested in its progress, the cavities closed and positive sputums turned into negative ones. Quite frequently, however, we run into those cases in whom collapse has been carried on for two or three years, and re-expansion of the lung reveals that the cavity has reopened. This type certainly cannot be considered a satisfactory collapse. In many of the moderately advanced cases we will find evidence of tuberculosis infiltration in the opposite lung. Quite often collapse of the side with the most extensive disease will bring about a resorption of healing of the contralateral lesion.

We are all familiar with the picture of the far advanced tuberculous individual, and yet too many reach this state before diagnosis is made; due more to the insidiousness of the disease and the patient's negligence in seeking professional advice than to the physician's lack of diagnostic ability. Here again, although we may expect a great percentage of failures, pneumothorax should be given a trial. A partial collapse in many cases can be effected, giving relief from toxemia and allowing time to improve the patient's condition for more radical collapse therapy. Again pneumolysis may aid in getting better collapse.

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In these cases, as well as in many of the moderately advanced, a partial bilateral pneumothorax is justified; provided, of course, that the pleural space has not become obliterated due to advancing disease. A search through the literature reveals that adhesions are present in only about 15% to 19% of the minimal cases and about 48% of the moderately advanced, and about 55% of the far advanced—another argument for the early institution of pneumothorax as soon as diagnosis is made.

The technique of pneumothorax is, as we all know, a rather simple procedure, but nevertheless one that is beset with complications. Among these can be mentioned:

1. PLEURAL SHOCK, accompanied by dyspnea, weak pulse, pallor and in some instances, loss of consciousness. What produces this I do not know, and some believe that the chain of symptoms is due to pulmonary embolus instead of pleural shock. I have had three cases in my experience and in these the shock occurred before any air entered the pleural space. Therefore, I am convinced that it is a true clinical entity which is fortunately of rare occurrence.

2. AIR EMBOLISM. No doubt exists about this complication. Air may enter directly from the needle into a transfixed pulmonary vein, or it may enter directly into an injured vein without being injected from the pneumothorax apparatus. The symptoms are those of any cerebral embolus. Statistics show that death occurs in about 50% of cases. Again we are fortunate that this is of rare occurrence. I have had one case and that ended fatally.

3. PLEURAL EFFUSION is most commonly met with and it usually occurs early after collapse is started, about 75% of the effusions occurring during the first six months. The typical effusion is clear, having a straw color. The cell count of the fluid, chiefly lymphocytes, ranges from less than 100 up to 15,000 per cmm. An increasing count, especially 10,000 or above, usually indicates the beginning of an empyema. If the effusion is small it is best left alone and resorption will occur. If sufficient to cause respiratory distress it should be aspirated, to relieve symptoms, being replaced by a sufficient amount of air to maintain the pneumothorax.

4. EMPYEMA is the most serious of all the frequent complications and occurs in about 10% of the cases. When this happens it is best to discontinue pneumothorax and resort to other surgical methods for closure of empyema cavity. Records show that few or no cases of minimal tuberculosis develop empyema.

5. ACCIDENTAL PNEUMOTHORAX is not an infrequent occurrence. This usually occurs as result of puncturing the lung with the needle and may produce very few, if any, symptoms as the opening is closed due to partial collapse of lung and the increased pressure in the pleural cavity. It may also occur as a result of tearing of the lung when held up by adhesions. If the injury is of any consequence, serious symptoms may develop, which, if not relieved, may result fatally; especially is that true if a bilateral pneumothorax exists. This accident occurs in about 2% of the cases.

I became vitally interested in tuberculosis 17 years ago, at which time I spent 5 years on the staff at our state sanatorium and since leaving there my interest has continued. In 1937 Eli Rubin made the statement that, "The pressing problem is to define the scope of pneumothorax treatment in order to bring it within the reach of the greatest number of patients." This is even more true today. Therefore, I selected my subject with the hope that more members of our state association might become interested in giving pneumothorax in their own communities. There are only a scant few over the state actively engaged in this now. By so doing, this type of patient could be discharged from our state sanatorium much quicker than at present. Room could then be made available for others in dire need of treatment who are being denied the benefits of institutional care due to lack of space. You know, and I know, there are many who need to be admitted.

No physician should attempt pneumotherapy without first making an intensive study of the operation under skilled supervision, and familiarizing himself with the dangers and complications attendant. The Sanatorium staff would, I am sure, welcome any of us for a period of training and study in the procedure. I would like to see at least one physician in every county in our state trained to give pneumothorax. How much quicker turnover of patients we could have if this were true. Many could enter for the prime purpose of having pneumothorax instituted and could then return home where it could be continued with very little inconvenience to the patient. Following World War I the incidence of tuberculosis increased due to the privations and sufferings necessitated. We may look for the same, except in a greater sense, after the present World War is over. Among those breaking down with tuberculosis will be your relatives and mine, your friends and mine. Let us bring this form of therapy closer to them. Let us give them a better chance of recovery.

Discussion

Dr. Henry Boswell (Sanatorium): I am very proud of Dr. O'Mara's presentation of pneumothorax this morning. He is one of our boys and is one of the boys who is doing a very useful piece of work back in his home community, giving his people and the people of his section of the state the advantage of what he had in his training at the institution. Due to his continued interest in this type of work, I appreciate that paper very much more than I would one from our own resident staff at this time.

Many of the physicians of the state look on pneumothorax in the treatment of tuberculosis as something new. It was done long before most of us here were born. The first real work done in this country was done in the latter part of the last century by Dr. John B. Murphy of Chicago. He worked very hard, realizing that physiologically we put at rest fractures of all kinds and any other inflamed part of the human body. He argued, why can not better results be obtained by putting at rest an infected lung which was moving from 18 to 30 times per minute every hour in the day. He did this work in more or less crude fashion, but got splendid results and reported to the A. M. A. his work at the Denver meeting, I think in 1898, and the discussions on that report tended so much toward ridicule rather than scientific discussion that Dr. Murphy himself was disgusted and went back to Chicago and dropped the work. However, in later years it was continued and the method of treatment by pneumothorax has been markedly improved and brought up to the present high grade of scientific procedure.

In my early days of training under pneumothorax we looked at the man or woman and sized him or her up and then pumped air in there to meet the size of the cavity. Sometimes we would give 1600 or 2000 cc. of air in the pleural cavity at a pumping. Some of our patients got well; many of them have been buried for many years. Today that kind of treatment is no longer carried out by anyone, but the slow procedure of permitting the air to flow into the pleural cavity, collapse the lung and put it at rest for an indefinite time is followed. Dr. O'Mara told you it is the choice in the early cases of tuberculosis. In those cases which may be hospitalized it is better to observe them for a little while, because in instituting pneumothorax it means a period of perhaps three to five years, and it is more or less a nuisance in spite of the fact that the man or woman can continue in a normal active life. After the advanced stages are reached it requires more drastic methods to close cavities and shut off permanently that part of the lung that is desired. I am intensely interested, as the director of tuberculosis control in this state, in having many of our young men train there at the institution. We offer you free courses including your board and room. We are glad to have every man who is interested in it come down and take advantage of that course, where he can be trained in the detailed use of the pneumothorax instrument and particularly trained in when to give it and when not to give it, when to continue it and when to discontinue it. There are many complications that come up that I would like to talk about. We are intensely interested, and extend to you now in all seriousness an invitation, particularly you men under 40 or 50 years of age, to come down to the institution at our expense and let us train you so we can send back people in your community to useful happy life to continue their treatment, and take the others who are beyond your help and your economic means to handle in your home community.

Lieut. D. B. Wilson (McComb)—You have had the scientific facts put before you by these clinicians but I would like to add a little from the viewpoint of a health officer. I think that Dr. O'Mara has presented an excellent plan for treating more patients with tuberculosis here in Mississippi and I sincerely hope that such a plan will see fulfillment.

I have always thought that ambulatory pneumothorax treatment of tuberculosis at home is a very helpful procedure, but we are liable to accept such forms of treatment over a period of years without checking up closely to see if results both at home and abroad bear out the efficiency of such treatment. It is agreed by most authorities that pneumothorax treatment of tuberculosis is abused particularly by inexperienced clinicians. This was pointed out by Dr. O'Mara and is also borne out in work reported by other writers. This does not mean, however, that such treatment is not a boon to humanity in most cases.

All of you and especially every health officer here or at home has experienced the perplexing problem of what to do with the patient after the diagnosis of tuberculosis has been made. The following figures along this line were published by the Henry Phipps Institute of the University of Pennsylvania.

About 1 bed available in U. S. for every 10 patients with tuberculosis in need of hospitalization.

In an effort to find a plan to remedy this situation 111 patients were given ambulatory pneumothorax treatments.

RESULTS:

42 or 37.8%, earning a livelihood.

30 or 27%, greatly improved and practically free of symptoms.

14 or 12.6%, making progress slowly but making progress.

4 or 3.6%, developed a spread to opposite lung.

15 or 13.5%, treatment unsuccessful. No collapse. Treatment stopped.

3 or 2.7%, developed acute tuberculous pleurisy.

3 or 2.7%, died.

It can be seen then and is admitted that ambulatory treatment at home is not a 100% success, but the figures do bear out the fact that such treatment is beneficial to a large group and worthy of further trial. This is particularly true in the case of the negro where the rate of infection is very high but hospital beds are very few. In these cases it is so much better to give early ambulatory treatment which in experienced hands (although unsuccessful in a few instances) would not hurt the patient as much as to let him wait for six months or longer without any treatment until a bed is available in a tuberculosis hospital.

Such treatment can easily be carried out with the coöperation of the health department: 1) trained clinician to give treatment, 2) T B association to help with finances, 3) follow-up by public health nurses, and 4) contact x-rays.

In closing I should just like to reiterate Dr. O'Mara's proposal that more clinicians avail themselves of the opportunity of treating more tuberculosis at home after they themselves have become thoroughly familiar with the art of pneumothorax treatment.

DR. JOHN C. HARTER (Sanatorium)—If we can get more papers presented every year on the treatment of tuberculosis, I think we will get some place. While most of these early cases of tuberculosis can be cured if they are let go, many of them become advanced. Some of them get well with bed rest, and doctors so far have not been any better at telling what is going to happen in the future than the politicians, so I think we ought to treat these early cases of tuberculosis with pneumothorax. Incidentally, I want to correct Dr. O'Mara. The patient he demonstrated had what is called a gastropneumothorax. One thing I want to warn against is that pneumothorax in adhesions is not effective in curing the disease. The patient may get well, but when you expand the lung and the adhesions remain, it is not the fault of the pneumothorax but of the diagnostician who has not had the adhesions cut. If they are too numerous to cut, the pneumothorax should be re-expanded or another type of collapsed therapy given.

A word about pleural shock. It is almost conclusively proved to be due to air embolus. You do not have to introduce the air yourself, it may come from the diseased lung. Of course the major type of reaction may occur as Dr. O'Mara said. This may be avoided by going into the portion of the chest where you think you can get a normal flow. A needle can be put into the normal lung very quickly, producing pneumothorax without introducing any air into the pleural cavity. Sometimes you get a collapse but not as frequently as you think. If pleural effusion occurs very shortly after you start the pneumothorax, partially re-expand the lung and that effusion usually clears up, and then you can re-collapse the lung slowly without getting the effusion again. I think as a rule these patients should be kept hospitalized as much as possible, because certainly many of them if neglected go on to tuberculosis.

DR. O'MARA (closing)—I haven't anything more to say except to thank the gentlemen who so ably discussed my paper. I think the discussion was better than the paper itself. I do not know why I made the mistake Dr. Harter mentioned.

Virus Pneumonitis

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IN THE COURSE of the last few years a number of reports have appeared in the literature concerning an acute infectious disease of the respiratory tract in man, which has been associated with unusual pathological changes in the lungs. Virus pneumonitis is the term which has been rather loosely applied to this peculiar form supposedly caused by the virus. Bowen[1] first described an epidemic of disease which he termed acute influenzal pneumonitis. Smylie, Shoreacres, Lee and Ferris reporting from Cornell University gave their findings in 86 patients with what they termed as acute intestinal pneumonitis, and suggested that the disease described by them was probably the same as that studied by Bowen. Reimann[3] reporting from Philadelphia gave his observations in eight patients with a similar disease, which he designated atypical pneumonia, and suggested on clinical grounds that the disease was probably caused by a virus. Reimann was able to make studies of a virus in their forms of pneumonitis and found that it was not A and B known to be operative in influenza.

Cases of this type are grouped under the term virus pneumonitis because (1) no other known etiological agent has been incriminated, (2) the clinical and pathological nature resembles that of other virus infections, and (3) in several autopsies reported in the literature a peculiar bacteria free inflammatory condition of the lungs has been shown to be present.

At this time we have no way of accurately determining what percentage of these pneumonitis cases should be classified in this so-called virus category, but it is reasonable to assume that they are much more common than is generally noted. Because certain filterable viruses, such as those seen in psittacosis, vaccinia and influenza, have been known to cause penumonia in animals, there is reason to believe that the same may be true in humans.

Weir and Horsefalls[4] were able to recover a pneumonthropic virus from the throat washings furnished them by Smylie of cases having virus disease. With this pneumonthropic virus they were able to produce in the wild mongoose, as an experimental animal, the syndrome of acute virus pneumonitis. After intranasal inoculation with this virus pulmonary hyperemia and consolidation appeared in the mongoose, and this virus could be maintained by several serial passages from the infected mongoose's lungs. The evidence which they presented indicated that the virus was present in the throat washings obtained from the human and that it produced a disease in the mongoose. The virus was recovered both from the filtered and non-filtered throat washings and was maintained by a series of intranasal passages in the mongoose. Moreover, when the filtered washings were inoculated directly into the chorio-allantoic membrane of the developing chick embryo, this virus was found to be present in the embryo through at least 30 serial passages.

Mongooses infected by this virus were found to develop specific neutralizing antibodies in their serum during convalescence. Similarly human beings with acute pneumonitis produce antibodies against this virus, the serum obtained from them during convalescence neutralizing the virus, whereas the serum obtained during the early acute phase of the disease does not. This evidence indicates that these patients were infected with this virus, and strongly suggests that the virus was related to the diseased process itself. Normal mongooses placed in contact with infected mongooses develop pulmonary lesions entirely comparable to those produced by direct inoculation of the virus itself. The evidence which these authors obtained strongly suggests that this virus is the cause of acute pneumonitis in human beings. The virus is known to differ from other viruses—A and B operative in influenza —and known to cause infections of the respiratory tract in man.

THE CLINICAL PICTURE:

The illness usually starts as a mild acute infection resembling so-called "grippe" in which symptoms referable to the respiratory tract are present, either in a mild degree or not at all. The patient does not have the appearance of one developing a pneumonic process. The usual history is that during the preceding day or so there has been a headache, malaise, a little fever, perhaps chilly sensations, and generalized aching discomfort. The most prominent and consistent complaint among the cases which we have studied is headache. The patient may have a slight cough, but this is frequently so mild that it is not mentioned by the patient until he is questioned on this point. There is generally little or no sputum, very little history of chest pain; in fact, the patient does not associate in his own mind involvement of the pulmonary system. Many of the patients do not mention the fact nor question the doctor concerning the possibility of having a pneumonia. The temperature rises gradually, cough frequently develops and is usually hacking and non-productive in character. When sputum is present it usually contains the ordinary mixture of bacteria that are commonly found in the nose and throat, including occasionally the high pneumococci. This sputum does not have more than the average amount of bacteria found in the nose and throat of a normal individual. When high type pneumococci are found in the sputum this does not necessarily indicate any etiological significance. Another striking feature in many of the cases seen is the profuse perspiration with or without a preceding chill. The leukocyte count is usually within normal limits or slightly elevated, but rarely is there any disproportion in the differential count.

Physical examination reveals little except a slight reddening of the pharynx and an elevation of the temperature. The pulse rate is not particularly elevated but the respiratory rate is always normal. Physical examination of the chest during the early course of the illness reveals no abnormal sounds. There is usually no suspicion of pulmonary involvement except on x-ray examinations. Occasionally a few moist rales may be heard in the affected area, but there is almost never consolidation or evidence suggesting consolidation. The course of the illness may be variable but it usually lasts from 7 to 21 days, the temperature coming down by lysis. Complications have been rare, mortality rate is low except in patients who have serious complicating diseases of another character or otherwise poor risks. Frequently during the course of the illness, physical signs may make their appearance in the chest when they are not present at the beginning of the disease. Likewise, it is not uncommon for physical signs to make their appearance after the temperature has subsided. Occasionally we have found patients who would come into the office stating that a week or ten days previously they had had an attack of fever, cough or cold, stayed in bed for two or three days, have been up since then but not feeling well. Physical examination of the chest would reveal some signs that would make one suspicious of a pulmonary lesion, and an x-ray picture at this time may show a subsiding type of lesion. This inclines us to the belief that there are many more cases than actually are diagnosed.

X-RAY OBSERVATIONS:

Since a pulmonary lesion is not suspected it is difficult to determine accurately how soon x-ray changes can be detected after the onset of the illness. In a few cases where x-ray pictures were taken early, changes were found within 24 hours after the onset of the symptoms. However, it is our belief that x-ray changes may be present several days before any abnormal physical signs can be detected. The roentgenogram usually discloses an area of hazy density extending out from the hilus region into the lower lung field, and occasionally into the midlung field. The margins of this area are all defined, shading off gradually into the surrounding lung. As the disease progresses, the area increases in density, may increase in size and become more sharply defined. Resolution occurs as in other types of pneumonia, the density gradually diminishing and becoming more mottled and linear in type. The disappearance of the process is gradual and evidence may be seen two or three weeks after subsidence of the temperature.

TREATMENT:

Symptomatic treatment is yet all we have to offer. This is one pulmonary process which none of the sulfonamide compounds available to date have favorably affected. In fact, it has been our experience that frequently the condition is adversely influenced by the compound, and following their discontinuance the patient is much more comfortable and the fever appears to subside more quickly.

SUMMARY:

Circumstances lead us to believe that this type of infection represents a separate disease entity. It is a disease involving the res-

DISCUSSION

DR. L. T. CARL (Jackson)—Dr. Ward has described the developing of the concept of virus pneumonitis very well and thoroughly. It is a new condition about which none of us knows a very great deal. I can remember five or six years ago during a residence in a hospital there was a typical pneumonia in which the etiology was rather obscure because of the laboratory findings, and the roentgologist would often report interstitial pneumonia. In the light of this work on virus pneumonitis, probably some of these cases were due to that. Then later Dr. Ryman reported eight cases of a typical type of pneumonitis, and two things struck me at the time: One was his clinical procurement in being able to differentiate between these cases and other cases of a typical pneumonia; and the second was his idea which was not confirmed at the time, that these were probably due to a virus. Since that time as Dr. Ward has outlined in bringing the subject up to date, other workers have confirmed Dr. Ryman's clinical observations with a large number of typical cases which exist and most likely are due to virus. Since we do not have the advantage of laboratory facilities for isolating and identifying virus pneumonitis diagnosis, our impression must be based on clinical observation for the etiology of these cases, and Dr. Ward has thoroughly outlined the points which would justify one in making a diagnosis of virus pneumonitis. There are two conditions among others that would have to be ruled out: one would be the influenza type of pneumonia and the other the tubercular type of pneumonia. As Dr. Ward pointed out in his slide, the crest is more prolonged than usual pneumonia, which rules out tuberculosis, because the patients do get well, and in a relatively short time. Influenza pneumonia would probably be harder to differentiate positively. Recently Adams reported in the Journal of the A. M. A. an autopsy study of nine cases of virus pneumonia in infants. He had studied 33 cases in the nursery in the hospital, nine of which had died and all nine showed nucleus bodies in the bronchi epithelium, and he pointed out that this would differentiate the condition from influenza pneumonia, which is also a virus infection. As pointed out by Dr. Ward these cases are probably more frequent than we suspect. We should bear this in mind and when we see typical cases of pneumonia, particularly those that do not respond to sulfanilamide, and those whose etiology is obscure, we should think seriously of a diagnosis of virus pneumonitis.

DR. WARD (closing)—I appreciate the generous discussions. To add a point in the case of Dr. Eubanks: He had a bloody expectoration. It is our experience that these people do not characteristically have sputum; if it is present it develops later in the disease. The sputum is not as typical as that in influenza. The cough does not always develop as in typical respiratory infections, and the patient does not frequently consult the doctor. The cough, not a prominent symptom at first, may become so later on, with a characteristic hard, brassy, paroxysm unlike a mere irritation around the bronchi. It persists frequently long after the clinical symptoms have subsided and the possibility of tuberculosis worries us because it lasts so long. The temperature as a rule starts in the same manner as any low grade respiratory disease. As a rule it is not as high as in most pulmonary infections, 99° to 100° and 101°, sometimes 102°. The temperature subsides in six or seven days. It is not the high temperature and low pulse rate seen with typhoid and other insidious illnesses. Remember, we all should have enough courage not to give sulfanilamide to every patient who comes in sick.

piratory system but does not appear to be related to a common cold or epidemic influenza. Epidemiological and experimental observations indicate that it is contagious, and bacteriological studies which have been made fail to incriminate any of the known bacteria as etiologic factors. This negative evidence plus certain characteristics of the clinical picture, at least suggest that it is a virus disease. However, it is impossible to say at this time that any very positive evidence can be introduced in favor of this impression. One of the most outstanding features of this condition is its lack of response to any of the sulfonamide compounds.

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Treatment of Varicose Veins*

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THE PRESENT treatment of varicose veins is a recent conservative adjunct to surgery. It does not supplant the well-grounded principles of the surgeon, but puts such treatment in the safe hands of the general practitioner.

Varicose veins regardless of location have a common etiology and pathology.

ETIOLOGY — There is no single cause, but there are several predisposing and precipitating factors, namely: inheritance, inflammation, age, pregnancy, puberty, menopause, tumor, occupation, and trauma.

PATHOLOGY—Associated with the dilation and elongation of the veins are degenerative changes and fibroses that occur in the wall of the vessel resulting in the loss of elasticity. Incompetence of the valves occurs early both as the result of dilation of the vein and also because of the atrophy of the valves.

SYMPTOMATOLOGY—This depends on the severity of the varicose veins and their distribution.

DIAGNOSIS—Inspection reveals the presence of varicosities, yet there are several tests to determine their extent and competency of the valve of the vein.

The entire long saphenous may be involved which extends from the region of the ankle up to the anteromedian aspect of the leg and the thigh to the inguinal region. The involvement of the short saphenous veins is evidenced by the prominence of the vein on the posterior aspect of the leg.

SPECIAL DIAGNOSTIC TESTS: It is important to determine the competency of the valves in the superficial and communicating veins, the patency of the deep veins and competency of the arterial circulation.

The prognosis, indications and contra-indications are determined by these diagnostic tests. Numerous tests have been offered but only the simple accredited tests will be described:

1. Tendelenberg, described in 1891, is a test for incompetency of communication veins. The patient lies in a supine position, elevates the extremities and allows the blood to drain out. The tourniquet is applied high on the thigh. The patient then stands up. The rapid filling (within 30 seconds) of the superficial veins indicates incompetency of the communicating veins.

2. Ochsner and Marhorner have described a comparative tourniquet test which is a modification of the Perthes test. It demonstrates: 1) Competency of the valves of the internal

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saphenous and of the communicating veins. 2) Patency of the superficial and deep veins.

The patient is observed walking. He is asked to stand and a tourniquet is applied around the upper one-third of the thigh tightly enough to compress the superficial veins and to obstruct the flow of blood through the segment. The patient again walks over the same course at the same speed. The prominence of the varicosities is noted and compared with the prominence when the patient walks without the tourniquet and then again when he walks with the tourniquet around the middle third of the thigh and again with it around the lower third of the thigh.

Interpretation is as follows: If a maximum improvement in the varicosities (less prominence) occurs when the tourniquet is at the highest level, i. e., around the upper end of the internal saphenous vein, and there is not further improvement when the tourniquet is around the middle third or around the lower third of the thigh, then only one source exists for the retrograde flow into the superficial system of veins and that source is through the main opening of the internal saphenous vein into the femoral vein. If there is greater improvement in the varicosities below the tourniquet when the tourniquet is around the lower third of the thigh than when it is around the upper third, it is evident that not only is there retrograde flow from the deep to the superficial system through the main opening of the internal saphenous vein but there is also a leak through the communicating vein below the fossa ovalis.

The pulsation of the dorsalis pedis and posterior tibial arteries must always be determined, also any other question of arterial supply.

The above tests help to determine the indications and contraindications for treatment as well as for the type of treatment.

CONTRAINDICATIONS. The general systemic diseases may include malignancy, tuberculosis, severe myocarditis, coronary or peripheral arterial disease, hypertension, and acute febrile conditions. The local diseases are covered by lack of patency of the deep vein, local infection, and active thrombophlebitis.

Old cases of thrombophlebitis without active edema may be treated with caution and care.

The presence or absence of incompetent communicating veins should not influence your method of treatment because if the superficial venous system is adequately obliterated throughout, the communicating veins become of no consequence.

The technic here described is limited to personal experience.

SCLEROSING SOLUTIONS. The sclerosing solutions used have been sodium morrhuate 5% and synasol (Searle).

These have been selected because from all sources they seem to be most advantageous as (1) to the efficiency of sclerosing and (2) as to the safety of the patient. Synasol seems to cause less local pain than the sodium morrhuate. The sclerosing factors have been equal. A test dose of 1 cc. or less should always be used in the first treatment.

INSTRUMENTS. The 10 cc. Luerlok syringe has been selected because its size is more suitable to handle all conditions. A 25- or 26-gauge needle is used exclusively so that the leakage from the venous puncture will be a minimum. Be sure to have the needle well fitted to the lock in the syringe because unconsciously considerable pressure is put on the syringe and any accident will put the solution in the close observing eye.

THE MANAGEMENT OF TREATMENT. Distribution and size of varicosities determine their respective treatment. For simplicity there are three distinct groups: The first group consists of spider burst, rochet burst or telangiectatic type. There are tiny superficial and often interlocking vessels which do not cause any symptoms. They offer only a cosmetic problem. This group is easily but very carefully treated by injecting a very small amount—1/10 cc. to 5/10 cc. of sodium morrhuate bubbles (prepared by vigorously shaking this solution). A pressure bandage is applied after the injection.

Mild or moderate varicosities not associated with any incompetency of the great or small saphenous system comprise the second group. If the varicosities seem to affect a portion of one or the other forementioned systems, good results should be guarded, because of recurrence frequently developing. This group is treated by simple injections of 1 to 5 cc. of the sclerosing solution into the proximal portion of the varicosities, every other day or twice a week. The patient should wear an elastic bandage during the course of injections and a week thereafter.

The third and most prominent group of varicosities involve the incompetency of the great and small saphenous system. The varicosities can only be adequately treated by ligation and injection.

The patient should be operated on preferably in a hospital under local anesthesia and allowed to leave shortly after operation. He should be considered an ambulatory patient throughout the treatment. The technic of the ligation and injection can be done by any doctor who has thoroughly acquainted himself with the anatomy of the saphenous system. The incision is made parallel to and one inch below Poupart ligament over the fossa ovalis.

The great saphenous is found by careful blunt dissection under the superficial fascia, medial to the pulsations of the femoral artery and lying on the fascia lata. The great saphenous vein is then separated under its bed for a short distance and is doubly ligated with chromic catgut. A curved clamp is placed on the vein just proximal to the double ties and the vein is divided between the clamp and ties. The distal portion is allowed to react downward but is held available by one of the sutures, the ends of which have been left long for this purpose.

Inasmuch as all of three uppermost tributaries of the great saphenous vein enter either on the anterior or lateral aspects of the vein, it is now possible to insert the index finger posterior to the proximal stump and completely strip away the loose areolar tissue, exposing it proximally as far as the femoral vein. The various tributaries are then divided and ligated separately leaving the proximal stump of the great saphenous vein free of any tributaries.

By traction on the proximal stump of the saphenous vein, the anterior surface of the femoral vein is exposed and two clamps are placed at the saphenofemoral junction. The great saphenous vein is doubly tied with chromic catgut just proximal to these clamps, and the excess portion of the vein is excised. The distal portion of the vein is now pulled up into the wound and a predetermined amount of sclerosing solution is injected directly into the lumen of this vein. The wound is irrigated with saline solution and is closed with interrupted sutures.

An elastic bandage should be applied over the extremity immediately after the operation and worn throughout the treatment.

The additional ligation and injection of the short saphenous may be necessary in selected cases. The patient should be encouraged to walk as soon as possible.

POSTOPERATIVE CARE. —The patient should return the next day for inspection. If all 's well he should be told of the possibility of fever and redness of the area of the vein. After two weeks the remaining varicosities that were not controlled by the initial injection at the operaton can be safely injected locally. At all times the patient should continue to wear the elastic bandage until the last injection is given. This will add to the comfort of the patient and efficiency of the injection.

Re-occurrences should not be over 15%. The mortality rate ranges from .3% to 1%.

SUMMARY:

1. Treatment of varicose veins is within the reach of every general practitioner.
2. The treatment is easy and safe.
3. The treatment is economical and will allow the patient to be ambulatory.
4. The treatment is rehabilitating.

DISCUSSION

DR. GUY T. VISE (Meridian): Dr. Ramsey has given us an interesting paper on the treatment of varicose veins. I wish to emphasize that varicose veins are the most important disease of the venous system. We all see many cases each year that need treatment. Injection is the easiest and the most universal method.

Most of us find that our patients are willing to have the injection treatment but refuse surgery until the pain is more severe. Many times we see small isolated varicosities that can be relieved by one or two injections. To make a correct decision where to ligate in some of these cases would be difficult. In my practice I inject all cases unless severe—using sodium morrhuate. If the patient is allergic to sodium morrhuate I then use 25% solution of sodium chloride. For six years I worked at one of our charity hospitals where funds were very limited. I used 25% NaCl exclusively with good results. We did not have the money to buy sodium morrhuate but made our own solution of 25% NaCl. It can be sterilized by boiling and will remain sterile because of the high salt concentration. There are no reactions and very little danger of a slough should it be injected into the soft tissues. There is a little more pain from the use of 25% NaCl but this can be prevented by adding procain HCl to make it a ½% solution. I use sodium morrhuate in private practice except in cases with severe allergy—in these I use 25% NaCl. By using a 25-guage hypo needle and a tuberculin syringe it is possible to inject very small veins.

I should like to call attention to varicose veins having lesions on the legs, which do not respond to treatment. Two years ago I had a patient with a malignant lesion on the middle one-third of leg proved by biopsy. It was treated with radium and x-ray but failed to heal. After giving two injections of sodium morrhuate into a nearby varicose vein this lesion healed quickly.

Another interesting case was a luetic ulcer of lower one-third of leg, of twenty years' duration, with some edema from cardiac condition, and much secondary infection, was cured by a "sponge heart" in three months. When the ulcer was cured the varicose veins were then visible and could be injected. This man is now working every day. His rheumatism is greatly improved. He had been told that he had an incurable ulcer and that it was not a varicose ulcer because the veins were not visible due to the edema. All lesions of the legs that do not heal may be complicated by an underlying varicose vein which can be injected easily.

The Role of Stilbestrol in Disorders of Menstruation*

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Stilbestrol is an inexpensive highly synthetic ovarian hormone which has recently become available commercially. This product therefore tends to make ovarian hormone available to a larger number of cases than has heretofore been possible and widens the indication for the use of the product. It is however imperative that the clinician bear in mind the wealth of information concerning endocrine glands and disorders[1] if the greatest use of the substance is to be obtained.

We have attempted to administer the drug in gynecological disorders during the past three years[2] on the basis of previous experimental concepts of the place of ovarian secretion in human physiology. It is my purpose here to review our concept of endocrine disorders and to present clinical results which have confirmed these concepts in a gratifying manner.

The effect of ovarian secretion in maintaining the growth and development of the genital organs is well understood, and on this basis the treatment of certain vaginal irritations in children have been effectively carried out[5,6]. Likewise the atrophy of the ovary at the climacteric with the resulting subjective symptoms is well known and can be effectively combatted with ovarian hormones[7]. However, in the active menstrual life there is a large number of disorders which strain the ingenuity of the clinician. These are chiefly disorders of menstruation, either scanty, irregular or profuse in character, or a complete lack of menstrual function. These symptoms are uppermost to the patient but to the clinician represent a complex problem which may involve disorders of the pituitary, thyroid, ovary, nutritional defects, systemic diseases or local disturbances of the reproductive tract. The clinician can effectively rule out systemic disease and local disease of the uterus itself, but there remains a vast number of patients who have essential disorders of the ductless glands. The experimental knowledge of these glands, we believe, has a definite relationship to effective endocrine therapy.

It is well known that pituitary hormones affect the ovary and are responsible for follicular development, ovulation and corpus luteum formation. A less widely known but well confirmed group of experiments have shown that ovarian hormones can influence the function of the pituitary as well. Enlargement of both the pituitary and ovaries can be produced by large doses of estrogenic substances such as stilbestrol, but if the pituitary is removed the ovary does not enlarge[8,9]. Removal of the ovaries produces changes in the pituitary gland which can be prevented by small doses of estrogenic substances[10]. A combination effect or synergism between pituitary extracts and estrogen is shown by the enhanced ovarian action of the combination, over the effect of the pituitary action alone[11]. Likewise estrogenic substance is synergistic with hormone of the corpus luteum in its effect on the uterus.

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Pituitary gland grafts are known to survive better when the host is injected with estrogen[13]. This evidence of pituitary stimulation by ovarian products led us to use stilbestrol extensively in an attempt to prove the activity clinically.

A most convincing experiment simulating clinical syndromes of irregular menstruation has been carried out by a group with whom I was previously associated. Animals were subjected to partial removal of either the pituitary, thyroid or ovaries and heat cycles, comparable to the menstrual cycles of the human were observed[14,15]. Although animals do not show the actual phenomenon of actual bleeding, the changes in the uterus and heat cycles are in every way comparable to all types of disturbances of the uterus and menstrual cycle observed in the human. These experiments were conclusive evidence that deficiency of the secretions of the thyroid, ovary or pituitary can cause menstrual disturbances of all varieties. Further, these disturbances were divided as to severity in the following manner:

1 Those showing an abnormal cycle with evidence of action of both ovarian hormones similar to the mild deviations from normal menstruation.

2. Those showing evidence of only estrogenic hormones with prolonged profuse bleeding.

3. Those showing evidence of a markedly diminished ovarian secretion, symptomatically observed as irregular scanty periods.

With this evidence that a partial deficiency of the thyroid, ovary or pituitary is responsible for many menstrual disorders and evidence of ovarian substance stimulating the pituitary, we have undertaken to treat functional menstrual disorders as far as practical with the two inexpensive available products thyroid and stilbestrol. Pituitary products and pituitary-like products were used in some cases, particularly the mildest type of definite ovarian disturbances, but expense has definitely limited its use. Progestin was used in addition to stilbestrol before the onset of menstruation—particularly where uterine cramps were present. Curettements were employed in the more severe cases of bleeding both because of the definite hemostatic effect and because normal menstrual function often follows the procedure. The patients were classified as far as possible, depending upon endocrine stigma and physical findings as to their endocrine status. Metabolic tests were done on all cases to determine thyroid deficiency. Those with pituitary physical stigma were classified as probably pituitary disturbances while the remaining were classified arbitrarily as ovarian deficiency. Primarily hypothyroid cases were all excluded from the study because no ovarian products were used in therapy. Small follicular ovarian cysts were considered as evidence of primary ovarian deficiency and treated to a large extent conservatively. Obesity was frequently present and reduction was an imperative treatment to bring the patient into the best nutritional condition.

The accompanying chart represents an attempt to classify the patient as to endocrine type of disorder. The treatment with stilbestrol can be seen to be of an intermittent nature which is similar to the known secretory activity of the ovary. Thyroid deficiency was substituted in all cases where indicated and patients who did not respond to the treatment were then treated by other complex methods including gonadotropic substances such as apodin, gonadogen and sympoidin. Operative procedures and x-ray treatments were frequently necessary for complete relief of the more intractable cases.

From the above chart it is obvious that stilbestrol fill a definite place in the treatment of the common disorders of menstruation and when used in conjunction with ovarian stimulants and thyroid leads to the cure of many distressing disorders. It is our impression that the response is best in patients in which the uterus and ovaries are of the infantile or abnormally small type. Some of this response, of course, is due to the direct effect of the stilbestrol on the uterus itself, but the fact that normal menstrual functions exist for a variable length of time after discontinuing the therapy shows that the pituitary gland has been stimulated to a rhythmic activity. The styptic action of large doses is well tolerated and is a very effective method of temporarily stopping prolonged or profuse menstruation. The response of the asthenic or adrenoid patient with small underdeveloped uterus has been good in our small series, but as a whole this type of individual requires other treatment including curettement, x-ray and ovarian stimulants. Cramps or dysmenorrhea show response to the local stimulation of the uterus with this strong estrogenic substance and treatment is particularly effective if progestin is given just before the onset of menstruation.

This is of course a very inadequate series

No.	*Endocrine Type*	*Menstrual Symptoms*	*Constitutional Factors*	*Gyn. Findings*	*Type Treatment*	*Response*
4	Pituitary	Scanty or absent periods	Obesity and skeletal overgrowth	Very small uteri. Infantile uteri	Stilbestrol 1 mgm. daily for 3 weeks. 1 week interval and repeat	Excellent, restoration of menstrual function and uterus returned to normal size. Periods remained normal after medication discontinued.
4	Pituitary with thyroid deficiency	Prolonged intervals, variable flow	Moderate to severe obesity	Small or normal uteri	Stilbestrol as above. Thyroid dependent upon B.M.R.	Good results in 3 cases. One sensitive to stilbestrol and other ovarian extracts. Responds to gonadotropic substance.
3	Pituitary	Profuse prolonged bleeding	Moderate obesity	Normal	Stilbestrol 8 mgm. daily for 2 days as styptic	Stopped bleeding but all had return of trouble requiring ovarian stimulants. Slow response as a whole.
10	Primarily Ovarian	Profuse and irregular periods	Asthenic long limbs, short trunk, etc.	Small cysts retrodisplacements, etc.	Stilbestrol 1 mgm. daily for 3 weeks. Stop 1 week and repeat	Fair. 3 quickly improved. 3 required additional operative procedure. 4 poor, requiring gonadotropic injections. D & C's and irradiation.
7	Mixed	Severe cramps	Normal or asthenic	Impression of firm uterus	Stilbestrol 1 mgm. daily for 3 weeks. Progestin 2 mgm. before period	3 good response. 1 fair. 1 none. 2 couldn't take preparation.
10	Not determined unless hypothyroid	Menopause or surgical castrates	Variable		Stilbestrol 1 mgm. twice weekly	8 good response. 1 nauseated preferred other preparations. 1 responded to other estrogenic preparations.

but the results are most suggestive of effective therapy of these unusually stubborn disorders. Very few patients were unable to take the drug because of its nauseating effect but one definite sensitivity to any of the ovarian substances was encountered.

In the menopausal group a gratifying response is usual. Over dosing is a common mistake and a few patients were found that responded to other preparations better than they responded to stilbestrol. This may have been entirely a matter of dosage, absorption and excretion of the products which vary markedly in their method of administration[16].

In conclusion, it is my belief that stilbestrol or any other strong estrogenic substance, when administered with definite consideration of the physiological action of this product, response was seen in patients with obesity, overgrowth and underdeveloped uteri which are usually classified as a primary pituitary deficiency. Evidence is presented that stilbestrol affects not only the local reproductive organs but acts in conjunction with other endocrine glands in producing its effects.

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DISCUSSION

R. C. O'FERRALL (Jackson)—Dr. Ellison has brought us a most interesting paper and one that should be valuable to every general practitioner as well as to the gynecologists. No drug has received as much attention in the past three years as has stilbestrol. Not only have the medical journals been filled with articles concerning the use of this preparation but the lay magazines as well have drawn it to the attention of the laymen, so much so that hardly a week passes without a patient inquiring if we cannot give her some of the "new medicine" to relieve menstrual or menopausal disturbances.

This drug has been a great help to patients not only in a physiological way but in a marked financial way also. As an example, the menopausal case that requires 5,000 units of theelin once a week over a six-month period would be forced to pay approximately $20.00 for medicine alone and an additional fee for each office call, making the cost of the treatment vary from $25.00 to $50.00, whereas this patient would more than likely be kept comfortable on the use of stilbestrol, in some cases as low as 1 mg. per week, which would amount to less than one dollar for the drug alone, with probably $5.00 to $10.00 additional for office consultations.

Our experience with stilbestrol has been quite satisfactory except for the disturbing factor of nausea. I think this has been partly due to the fact that we have prescribed the drug in too large doses and that we gave it over too long a period of time. It has been the experience of other clinicians that the administration of the drug in intermittent doses would greatly lessen the occurrence of nausea. In one case severe abdominal cramps with generalized body rash occurred. At the time the patient experienced the pain, nausea, vomiting and rash, she had had only 3 mgs. of stilbestrol.

Stilbestrol has estrogenic properties capable of the following actions: inducing uterine hemorrhage in cases of amenorrhea; relieving the symptoms of the menopausal syndrome: leading to the appearance of cornified cells in the vaginal smear in menopausal cases; restoring the normal condition of the vulva and vagina in senile atrophic vaginitis, relieving the pain of dysmenorrhea and inhibiting lactation.

I believe the most gratifying results from stilbestrol are experienced in the group of patients complaining of amenorrhea and those suffering from symptoms caused by artificial or normal menopause. Hamblen reports a case of a woman 24 years of age, of adolescent hypo-ovarianism, with a uterus of rudimentary proportions who had never experienced uterine bleeding. She presented herself chiefly because of cosmetic limitation of hypomastia. This patient was given nightly inunction of a dram of ointment containing 3,000 rat units of stilbestrol into the skin about the breasts, which resulted not only in mammary hyperplasia but also, after three months of therapy, a uterine hyperplasia which permitted the patient's first uterine bleeding.

Localized therapy of the vaginal tract has also proved very satisfactory with stilbestrol and some gynecologists have employed the vaginal effects of estrogens, usually applied locally, in the preoperative preparation of post menopausal women for vaginal procedures, in order to reëstablish the cornification, vaginal acidity, and increased vascularity of the vaginal tissue to facilitate postoperative healing.

I think Dr. Ellison has shown very clearly in his outline the definite synergistic action of estrogen and thyroid and, also, a marked effect of the stilbestrol on the pituitary body. As the chart indicated, four cases of the pituitary type of scanty or absent periods with small, underdeveloped uteri responded almost one hundred per cent to stilbestrol alone. We must judge from this that the stilbestrol had definite effect on the pituitary gland, particularly in view of the fact that the periods remained normal after the medication was discontinued. In his second series of four cases with the pituitary and thyroid deficiency, he also obtained good results in 75% of these cases with stilbestrol and thyroid given according to the basal metabolic rate. His results in the cases of profuse and prolonged bleeding, and in those cases which he classified as a pituitary type and primary ovarian type did not respond as satisfactorily to stilbestrol as the cases of scanty or absent menstruation, or in the cases of prolonged intervals between menstruation. This coincides with our experience in that stilbestrol was more effective in menstrual disturbance of amenorrhea than in those of the metrorrhagic group. Also, the response in his cases to menopausal symptoms was most satisfactory. Eighty per cent of these patients treated with 1 mg. of stilbestrol twice a week showed good response.

I feel that in stilbestrol we have a drug that is safe, tolerated by most individuals when given in small, intermittent doses, and one that is within the financial reach of all patients.

Dr. C. C. Thompson (Columbia)—I have enjoyed very much Dr. Ellison's paper and I think it very timely. There are several points regarding the use of stilbestrol that I would like to emphasize.

It is a new and highly active synthetic preparation having estrogenic properties. Prior to its introduction the over-zealous use of estrogens was prohibited by the high cost of these products. Stilbestrol puts into our hands a very inexpensive preparation many times as potent as the natural estrogens that have heretofore been available. There should be a very definite indication for estrogenic therapy before stilbestrol be given. The indiscriminate use of this preparation will eventually bring grief to both the patient and the physician. Dr. Ellison, in his paper, has pointed out the indication for estrogenic therapy.

When stilbestrol first became commercially available, fairly large doses were advocated by the drug houses detailing the preparation. It is now believed by most of those who have used it over a period of several years that smaller doses are just as effective in the relief of symptoms as the larger doses previously advocated. It is now thought that in most cases one-tenth to five-tenths milligrams daily will relieve the symptoms.

Finally I would suggest that every possible measure be taken to prevent this preparation from becoming available to the laity as thyroid extract has. Since it is a very potent drug it should be administered only under the close supervision of a physician. I think it should be classed in the same group as the barbiturates, thus requiring that it be sold by the druggist only with a prescription from a physician.

CHARACTER AND CONDUCT MUST BE MADE REAL

As Susan Coolidge once wrote:

"He serves his country best
Who lives pure life and doeth
righteous deeds,
And walks straight paths, how-
ever others stray,
And leaves his sons, as uttermost
bequest,
A stainless record which all
men may read:
This is the better way."

Brewery and Distillery Saboteurs*

SEALE HARRIS, M.D.
BIRMINGHAM, ALABAMA

LLOYD GEORGE, Great Britain's illustrious World War I Premier, when the British Army was fighting with its back to the wall in Flanders in 1917, said:

> "England is fighting Germany and alcohol, and of the two, alcohol is doing greater harm to England."

Gladstone, England's greatest Premier, speaking in the House of Commons on March 5, 1880, said:

> "Greater calamities are inflicted on mankind by intemperance than by the three greatest scourges of war, pestilence and famine; that certainly is true of us, and it is the measure of our discredit and disgrace."

Georges Clemenceau, Prime Minister of France in World World War I, who saved France from accepting a German peace in 1918, said:

> "It is definitely settled that alcohol (5 to 10 per cent in beer, 10 to 20 per cent in wines, and 40 to 50 per cent in whiskey) is a poison, a poison destructive of human energy—and for this reason of society as a whole."

Henry Grady, the South's greatest editor and orator, said of the liquor traffic in 1896:

> "The liquor traffic is the demon that has dug more graves and sent more souls unshrived to judgment than all the pestilences that have wasted life since God sent the plagues of Egypt, and all the wars since Joshua stood beyond Jericho."

Theodore Roosevelt did and said many fine things in his strenuous life. He had the courage and the power to express his convictions in forceful and incisive language that left no doubt of his honesty of purpose. Every statesman in Washington from President Franklin D. Roosevelt to the last Congressman, every man connected with the Army and Navy in any capacity, and every man engaged in defense industries and war production should read Theodore Roosevelt's historic summary of the alcohol problem in World War I. If our statesmen and Army and Navy officials, and those in high places in war production, had the wisdom and the courage to apply the methods suggested by Theodore Roosevelt for preventing sabotage of our man-power by brewers and distillers they not only would be doing their duty in their efforts to increase the power of our fighting forces and increase efficiency in war production, they would prevent the loss of many lives that are being destroyed by beer and other alcoholic beverages that are sold by the United States Government in Army and Navy training camps, Navy ships and in places all over the world where American soldiers and sailors are fighting for their country.

Judge Fred G. Bale in an address on "Saboteurs" in Birmingham in August, 1942, quoted Theodore Roosevelt's letter to Dr. Clarence True Wilson, written December 12, 1917 and published in the December, 1941 issue of the magazine *Progress* (page 4). The letter is as follows:

> "Dear Sir:
>
> In answer to your question I wish to state that at the outbreak of the war I advocated prohibiting the use of all hard grains, of all grains that can be used in food products, for the making of alcoholic liquor. I am sure this would have eliminated much of the evil of intemperance which now seriously handicaps our preparations for war. When we must feed our Army and help the armies of our allies not a bushel of grain should be permitted to be made into intoxicating liquor. Neither the men in the Army nor the men engaged in doing vital work for the Army in connection with railroads, factories, mines and shipyards should be allowed to waste strength and health in drink at this time. The same reasons that render it necessary to prohibit the sale of liquor to soldiers in uniform, or within a given number of miles from a military camp, and to stop its use on battleships, apply to extending similar protection for all citizens engaged in the work of railroads, factories, mines and shipyards.
>
> I may mention that my sons who are now in the Army in France write me most strongly (just as General Pershing has expressed his public opinion unstintingly) as to the harm done to the men of the Army by permitting the sale of liquor to them, stating that they believe in absolute prohibition for the Army in war time —and one of them adding that his experience has made a permanent prohibitionist of him.
>
> I wish your board every success in its efforts to stop all waste of food, men, labor and brainpower during these days when the Nation needs every energy of every man at his best.
>
> Sincerely yours,
> Theodore Roosevelt"

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*An address to the National Woman's Christian Temperance Union, Birmingham, Alabama, October 3, 1942.

Woodrow Wilson Protected our Army and Navy from Brewery and Distillery Saboteurs in World War I. President Woodrow Wilson left no expression of opinion regarding the menace of alcohol to our Army and Navy during World War I, but actions speak louder than words, and by his acts he proved that he had the vision and the courage to protect American soldiers and sailors from brewery and distillery saboteurs while they were in training in the United States and when they were fighting in France. Whether President Wilson initiated the plan to prohibit the sale of all alcoholic beverages within a radius of ten miles of Army cantonments and on Navy ships and training stations is not known by me; but no doubt he favored a dry Army and Navy because he sustained Secretary of War Newton D. Baker and Secretary of the Navy Josephus Daniels in their wise and courageous decision to ban distillers and prostitutes from selling beer, whiskey and syphilis to American young men while serving their country as soldiers and sailors.

Surgeon-General Gorgas of the Army and Surgeon-General Braisted of the Navy during World War I believed ardently in a dry Army and Navy.

General Gorgas on Banning Alcoholic Beverages from Army Cantonments in World War I. In the early months of World War I, before going to France, I had the privilege of serving on the staff of Surgeon-General Gorgas. On one occasion just after the ten-mile prohibition zone around Army training camps had been established, General Gorgas instructed me to prepare a memorandum setting forth his views on prohibition for an interview he was giving the press. In giving me the data which he desired used in the interview General Gorgas said:

> "In the sanitation of Panama we found that malaria, dysentery and other tropical diseases occurred most frequently among laborers who were intemperate in drinking. As an aid in the prevention of disease among our laborers, we decided to prohibit the sale of alcoholic beverages on the Canal Zone. In order not to arouse too much resentment among the employees prohibition was established in ten-mile sectors at a time. It was noted that after the sale of alcohol was stopped in the first ten-mile sector the amount of drinking and the incidence of disease among employees was decreased almost immediately. It also was observed that the number of days lost by laborers was materially decreased and their efficiency while working was increased. The laborers could send to Colon a few miles away and get all the whiskey they wanted, but because it was inconvenient to get it, they drank much less. The decrease in drinking and the improvement in disease morbidity became more marked as the prohibition areas were extended. In my opinion the establishment of the ten-mile prohibition zones around Army cantonments will minimize drinking among soldiers in training. Likewise, prohibition, even if it does not prohibit completely, by making it inconvenient to get alcoholic beverages will reduce the evils of intemperance."

Pershing Protected American Soldiers in France. In World War I wise and far-seeing American medical officers of the American Expeditionary Forces realized that a greater menace than the Germans to our soldiers in France was the use of alcoholic beverages and the danger of contracting syphilis and gonorrhea from French prostitutes who swarmed around military camps. Be it said to the credit of General Pershing and his staff at General Headquarters in Chaumont, they did everything possible to protect American soldiers from drink and venereal diseases.

Major-General James W. McAndrew, Chief of Staff, by command of General Pershing, Commander-in-Chief of the American Expeditionary Forces in France, in G. H. Q. Bulletin No. 54 outlined the policy of the A. E. F. as follows:

> "In the majority of cases drunkenness precedes and leads to exposure to venereal infection. Throughout the A.E.F. all houses of prostitution as well as saloons indulging in the improper sale of intoxicants to the members (soldiers) of the American Expeditionary Forces in France will be designated as "off limits." Commanding officers will adopt the necessary means and disciplinary measures to prevent soldiers from visiting them."

Achievements of a Sober Army and Navy in World War I. As a result of the legal removal of the temptation to drink beer and other intoxicating liquors, and the legal restriction of the opportunity to consort with prostitutes, the United States soldiers in World War I made up the soberest and cleanest Army that ever fought on European soil; and there can be no question but that this sober and clean Army and Navy was the deciding factor in winning World War I for us and for our Allies. Likewise the best record in preventing venereal disease ever made by any Army was by our soldiers and sailors in World War I.

American sailors in World War I were protected from the dangers of alcoholism by prohibiting beer and other alcoholic liquors from being sold in Navy training camps and on United States Navy ships. More than 2,000,000 American soldiers were transported by a sober American Navy from the United States to France without the loss of a ship or a man by German submarines.

Activities of Brewery and Distillery Saboteurs in World War II. Contrast the record of a protected Army and Navy in World War I with the present situation in and around Army and Navy training camps, in which beer, an intoxicating habit-forming narcotic, is sold by the United States government to patriotic young men who are ignorant of the fact that beer is the most seductive and the most harmful alcoholic beverage known to man. Officers' clubs in Army and Navy training camps also sell beer, whiskey and all other intoxicating habit-forming beverages.

Bars, taverns, night clubs, grills, and gambling joints, houses of prostitution and assignation thrive all around the entrance to training camps for United States soldiers and sailors. As a result of the stupid tolerance of these evils in crowded training camps the venereal rates have increased enormously while hundreds of thousands of the cream of American manhood are forming the alcohol habit from drinking beer sold by the United States Government to soldiers and sailors.

Brewery and Distillery Sabotage in World War II. Physicians see the tragic end results of alcoholism which had its beginning in social drinking. They, therefore, are in a position to produce facts which prove the sabotage of man-power resulting from the use of beer, whiskey and other alcoholic liquors. I may add that my practice is limited to the diagnosis and treatment of internal diseases in adults. The end results of alcoholism which I see are in patients who come for treatment of diseases such as cirrhosis of the liver, heart, chronic gastritis, gastro-intestinal neuroses the neuritides, nutritional disorders and other diseases of alcoholic origin. I rarely am called upon to treat alcoholic inebriates. There is no reason, therefore, why I should have more alcoholics than the average physician.

In writing medical articles sometimes cases are reported showing the manifestations of the disease under consideration. It seems worth while to give brief histories of men who have been disabled by the use of beer and other alcoholic beverages to the extent that they are incapacitated to serve their country in the greatest crisis of our history. Some instances are mentioned in which men of military age are dead as a result of drink. Each man who died from diseases induced by alcohol, in war or in peace, is as much of a loss to his country as if he were killed by German or Japanese machine guns.

CASE I. A few days ago I had a patient, a lovely intelligent woman aged thirty-five, in the hospital under treatment for a nervous breakdown, due directly to worry incidental to her efforts to save the man she loves from the degradation of alcoholism. Her husband, the son of a rich man, who himself is a "moderate" drinker, has been in the hospital at least once a month for the past year undergoing treatment for acute alcoholism. He got on a drunk —alcoholic poisoning—while his wife was in the hospital and came in for treatment. This lovely good woman has given up hope of saving her husband from alcoholic insanity or death; and has decided that she will get a divorce from him. Her husband, a fine fellow, who tried to drink moderately like his father, became an alcoholic inebriate and is disqualified for service in the Army or Navy because of alcoholism.

CASE II. Two weeks ago a doctor friend of mine, a "fine fellow" from a small city near Birmingham, was commissioned a surgeon in the Army. He began years ago as a "moderate" social drinker. He became an alcoholic inebriate, a psychopath, and committed suicide a few weeks after entering the Army.

CASE III. On July 10, 1942, my first patient was a young man twenty-two years of age, of fine physique, who had applied for service in aviation. He was rejected by the Army because sugar was found in his urine. He informed me that he was drinking from ten to twelve bottles of beer every night when he applied for Army service. He quit drinking beer and the sugar disappeared from his urine. A glucose tolerance test by me showed hyperglycemia. He, therefore, is a mild diabetic. This young man's diabetes was due to the hepatoxin, ethyl alcohol, which he consumed in one and a half gallons of beer every evening. If he never uses alcohol again, as a few of my patients who have had alcoholic diabetes have done, he will be cured of his diabetes; but he has a damaged liver to the extent that he is disqualified for Army service. Is not the brewer who manufactured the beer that kept this young man from flying an airplane over Germany, a saboteur, who reduced the United States fighting force by one? Are not the owners of newspapers who have kept the truth about the dangers from drinking beer, which contains ethyl alcohol, a true liver toxin, guilty of criminally shielding the saboteurs, the brewers, who manufactured the toxin which kept this fine young man from flying an airplane in defense of his country?

CASE IV. On the same day I had another patient who informed me that his home physician, a young man about thirty-five years of age, had killed himself drinking. This brilliant young doctor would have been in the Army or Navy today had he not died an alcoholic. Are not the distillers who manufactured the whiskey that killed this young man saboteurs, who reduced by one the number of doctors available for the Army or Navy? Are not the owners of wet newspapers and magazines which kept this young doctor in ignorance regarding the dangers of moderate drinking, guilty of criminally shielding the saboteurs, the distillers, who manufactured the alcoholic beverages that kept this doctor from serving his country in the Army or Navy, when physicians are so much needed by the Army and Navy?

CASES V AND VI. My last patient on July 10, 1942, was a young man about thirty who had been in hospitals for inebriety several times. He has early symptoms of cirrhosis of the liver. He is disqualified for Army service on account of inebriety. This young man about a month ago married a divorcee, the daughter of a highly respected lawyer. The young alcoholic met her in a hospital where she too was being treated for alcoholic inebriety. The young man informed me that he had had four drinks the afternoon before coming to my office, and when his wife came in she was staggering drunk. This young man and this young woman would be serving their country today were it not for whiskey. Are not the brewers and distillers the saboteurs who debauched and have all but destroyed this young couple? CASES VII AND VIII. Recently I was called in consultation to see a wealthy man seventy-eight years of age. He had taken two drinks a day for years. The two drinks a day, the moderate use of alcohol, perhaps had not shortened his life; but his son tried to drink like his father and became a confirmed alcoholic. He was found dead in a hotel after a drunk at about the age of thirty-five. This old highly respected, moderate drinker had a nephew who began drinking moderately and became psychotic from the excessive use of alcohol. He committed suicide while en route to Baltimore to be treated for alcohol inebriety. These two right young men would now be in the Army or Navy—as are many of their confrères of the same age—had they not succumbed to alcohol addiction. These are just a few cases in which brewers and distillers have destroyed young men who should at this time be in the Army and Navy, had their fathers taught them to abstain from the use of alcoholic beverages. In every city and community in the United States there are as many such cases.

CASE IX. The toxicity of alcohol is illustrated by the case of a college freshman, who on a wager drank a pint of whiskey without taking the bottle from his lips. He won the dollar, but soon afterwards he fell over on the bed—dead drunk his friends thought. He died that night. Parenthetically it may be mentioned that a pint of the best whiskey ever made if drunk on an empty stomach probably would kill any man or woman who does not drink and has not formed a tolerance for alcohol. The young man who was killed by drinking a pint of whiskey would have been in uniform today, as most if not all of his classmates are, had it not been for distillery saboteurs.

Estimate of Sabotage by Brewer and Distiller. I personally know of many more men than I have mentioned whose usefulness as citizens in war has been destroyed by the saboteurs, i.e., the brewers and distillers, who profit as they debauch and destroy men and women.

There are 150,000 doctors in the United States. Say that each one knows five men who are disqualified from Army and Navy service because of alcoholism. An estimate of 750,000 men disabled for military duty by alcohol does not overstate the sabotage perpetrated by the manufacturers of alcoholic beverages. This does not include suicides, murders, and other accidents and illnesses in which alcohol was the direct or indirect cause in men who if they were living would be in the Army or Navy today.

There is not the slightest doubt in my mind —and I believe I think straight, without prejudice—but that the use of beer, wines and whiskey, first used moderately, and then to excess has killed off or disabled for military duty at least a million Americans who otherwise would be in the United States Army or Navy today. Are not the brewers and distillers and their puppets, the owners of newspapers who promote the liquor traffic, worse enemies to the United States than the Germans and the Japanese?

Beer in the Army and Navy. A successful business man, a veteran of World War I, who is making great sacrifices to serve his country, informed me that in his "outfit" of two hundred men in an officers training school, two had been dismissed and six had been court martialed because of drunkenness during the first month. Two other officers were arrested for drunkenness the night after the training school closed. This officer did not know how many had been disqualified and kept out of this training camp because of the diseases resulting from alcoholism. He was disgusted with the amount of drinking among officers in training. This sensible officer, who knows that beer is a habit forming, narcotic toxin which will disqualify thousands of soldiers for fighting, said that hundreds of thousands of fine young men, who have been taught to believe that beer is a harmless beverage when the war is over will go back to their homes handicapped with the alcohol habit.

A discerning business woman who lives in Kansas City told me that a relative of hers, a young man who had been sober and industrious before he volunteered for Army service, came home on a leave after having served a few months in the Army and remained drunk most of the time that he would be with his family before going overseas.

A Birmingham man of affairs recently said that he knew two young men, who were not regarded as drinking men before they entered the Army but when they had leaves before going overseas were drunk most of the time while they were visiting their distressed families. This man who travels a great deal said that it was distressing to see so many drunken soldiers and sailors on trains.

A Pullman conductor told me in late September, 1942, that his life is being made miserable by drunken soldiers and sailors. He said that there is so much rowdyism on the trains that railroad authorities had requested that military police be detailed to ride on trains to prevent soldiers and sailors from getting drunk and to arrest them if they become disorderly. This Pullman conductor said his train that morning made an unusual stop to let a sailor get off the train for a five-day visit to his family before leaving for duty on a ship. He said that the sailor was so drunk he could hardly stand, and the conductor remarked that it must have distressed this sailor's family for him to have been drunk when he came home to bid his loved ones good-bye for a long time, maybe forever.

On the same train was another sailor who was en route home for a five-day leave. He was wise enough to be a total abstainer. He said that he and many other sailors on his ship, who do not drink beer, deplored the fact that three carloads of beer were placed on their ship when space was needed for other things. He said that sailors do get drunk on beer.

There must be thousands of similar alcoholic casualties among young men who had not learned to drink before they entered the Army and Navy. Again I would ask, are not the brewers and distillers saboteurs? Cannot thinking men also class as saboteurs the owners of newspapers, magazines, radios and book publishers who, by their insidious propaganda, teach the lies that beer is a harmless beverage and that the moderate use of whiskey promotes happiness? Certainly they have kept the public in ignorance of the fact that ethyl alcohol (beer 5 to 10 per cent, wines 10 to 20 per cent, whiskey, brandy, rum and gin 40 to 50 per cent) is a true toxin and a habit forming narcotic.

Brewery and Distillery Sabotage of Man Power in War Industries. President Roosevelt recently called attention to the importance of conserving man-power. There are not statistics to prove it but any one who can think straight about the effects of alcohol must realize that a very considerable proportion of inefficiency and loss of days from work in war industries results from the use of alcohol. If it were possible to make total abstainers of all workers in war industries there would be a noticeable increase in their output. Why not conduct a campaign of education among workers in war industries teaching them the menace to efficiency, health and life resulting from the use of alcoholic beverages and urging all war workers in defense plants of all kinds to become total abstainers for the duration of the war?

Theodore Roosevelt was not intimidated by brewers and distillers because they had political influence and he did not mince words in expressing his opinion that defense workers should be forced to abstain from the use of alcoholic beverages for the duration of World War I. He said:

> "Neither the men in the Army nor the men engaged in doing vital work for the Army in connection with railroads, factories, mines and shipyards should be allowed to waste strength and health in drink at this time. The same reasons that render it necessary to prohibit the sale of liquor to soldiers in uniform, or within a given number of miles from a military camp, and to stop its use on battleships, apply to extending similar protection for all citizens engaged in the work of railroads, factories, mines and shipyards."

A man of excellent reputation, an employee in an industry manufacturing war materials said that two of his fellow employees were in a bar near the factory when one bet the other four dollars that he could drink three glasses straight of a drink which he would have made by the barkeeper. Before the man finished the third drink he fell over drunk. He was carried home and was found dead in bed the next morning. One less defense worker reported for duty that day.

A worker in defense industry in Birmingham about three months ago was in his automobile when three drunken men, probably workers in another defense industry, in another automobile shot him through the chest. He has been unable to work for three months and may never be well again.

An employee in a defense industry said to me a few days ago that another employee in the same plant was dismissed because he came to work smelling of whiskey. One less defense worker because of the ignorance and stupidity of industrial leaders, who allow the sale of beer and other alcoholic beverages near their plants.

These tragedies occurred in Alabama, which according to United States Government statistics consumed only 2.34 gallons of beer and 0.28 gallons of absolute alcohol per capita in the year 1940. The sabotage of men from drink must be greater in the manufacturing states like Michigan with a record of having consumed 19.32 gallons of beer and 1.48 gallons of absolute in 1940; while in New York the average per capita consumption of beer was 18.32 gallons and 1.55 gallons of absolute alcohol. In Pennsylvania in the year 1940 the per capita consumption of beer was 16.38 gallons and absolute alcohol was 1.36 gallons.

Be it said to the credit of those who have charge of United States ordnance plants which manufacture gun powder, and other explosives, not a drop of any alcoholic beverage is sold in those government reservations. They also prohibit the use of alcoholic beverages of all kinds by all government employees while working in ordnance plants that manufacture explosives. An official in one of those plants informed me that if the odor of alcohol was detected on the breath of any man while on duty, it meant instant discharge. Why should not the United States Government stop the sale of beer and other alcoholic beverages near essential war industries and within and near training camps for soldiers and sailors as it does in ordnance plants?

Accidents, Venereal Diseases and Insanity. President Roosevelt called attention to the forty thousand annual deaths and 1,750,000 annual injuries from automobile accidents; but he seems to be ignorant of the fact that studies on the alcohol content of blood in drivers of motor cars after automobile accidents show that more than fifty per cent of them were due to drinking drivers. There seems little doubt but that more than one-half the deaths and injuries from automobile accidents could be prevented if automobile drivers were forced to adopt rule G, which prohibits the use of alcohol and other narcotics by engineers, conductors and every railroad man who has anything to do with running a train. It is stupid ignorance of the public, or political cowardice in public officials, that beer and other alcoholic beverages are sold legally at filling stations, hotels, cafes, road houses and everywhere else convenient to motorists. Every automobilist who is killed or injured from automobile accidents is just one less man or woman who is needed for work in war industries.

Insurance statistics show that one-third of the men and women who apply for life insurance are uninsurable because of drink. Rejections for insurance because of drink increased thirty-five per cent from 1932 to 1936. If a man cannot get life insurance he certainly is not physically fit for the Army or Navy or for work in war industries.

Venereal diseases cause the loss of manpower in the Army and Navy more than any other cause; and likewise the number of days lost because of syphilis and gonorrhea by men working in war industries must be a factor in slowing down production in all plants engaged in the manufacture of airplanes and other war materials. Estimates of the proportion of cases of venereal diseases contracted while the victim is under the influence of beer, wine or whiskey vary; but "wine, women and syphilis" are the sequence in many cases. The incidence of venereal diseases would decrease at least twenty-five per cent if all men were total abstainers from alcohol.

Twenty-five per cent of the insane in hospitals in the United States are in alcoholics. Dr. Haven Emerson said that of twenty-five thousand charity insane admitted to Bellevue Hospital in 1940, twelve thousand five hundred were due to alcohol. Certainly a considerable number of men now confined in insane hospitals would be working in war industries were it not for the sabotage of brewers and distillers.

Waste in Money. The ignorant, indifferent and dissolute classes in the United States spend an estimated $7,000,000,000 or $8,000,000,000 for beer, wines, whiskey, gin, brandy and other alcoholic liquors. Much of this money goes to fabulously rich and arrogant brewers and distillers. When, and wherever, the wealth of brewers, distillers and owners of liquor newspapers accumulates, those who degrade themselves by drinking beer, wine, whiskey and other alcoholic beverages decay—directly in proportion to the amount of money they spend for the liquor they consume. This $7,000,000,000 or $8,000,000,000 which now goes to those who make money out of the liquor traffic, if spent for purchasing defense bonds, would go a long way towards paying the war expenses, thus helping to reduce our taxes.

Crime. Any man or woman who drinks is liable to get drunk and become a criminal while under the influence of alcohol, or in the period of depression and semi-insanity following a liquor party. More than half the murders, at least fifty per cent of the suicides, and from fifty to seventy-five per cent of the misdemeanors, i. e., drunk and disorderly, driving an automobile while drinking, bootlegging, violation of the so-called liquor laws and other minor offenses, may be traced to the use of beer, wines, whiskey and other alcoholic beverages.

Edgar Hoover, Chief of the Federal Bureau of Investigation (of crime) estimates that crime costs the United States more than $15,000,000,000 annually. Thus it appears that if all the people of the United States were total abstainers at least $7,000,000,000 or $8,000,000,000 now spent in investigating and apprehending criminals, and for courts, jails, loss of life and property from crimes, would be available to buy defense bonds. Add to the staggering cost of crime resulting from the use of beer and whiskey, the $7,000,000,000 or $8,000,000,000 spent for beer, wines, whiskey and other alcoholic beverages if the ignorant, indifferent and dissolute classes were not so stupid as to drink, socially or otherwise, at least $15,000,000,000 would be available to buy defense bonds.

A Servile Congress. The immortal Henry Grady said:

> "Tonight the liquor traffic enters a humble home to strike the roses from a woman's cheek and tomorrow it challenges this republic in the halls of Congress. Today it strikes a crust of bread from the lips of a starving child and tomorrow levies tribute from the government itself."

In recent years a few brewers of German descent have challenged this republic in the halls of Congress and have placed on the statute books of the United States Government the palpable and malicious lie that 3.2 per cent beer is not intoxicating. They have gone to the legislatures in every state in the union and have placed the same lie on the statute books of every commonwealth in this so-called free country. Brewers of German descent are now the government and they will fill the government itself. They have placed beer, a beverage containing ethyl alcohol, a harmful habit forming narcotic, into every place in the United States and all over the world for sale to soldiers and sailors who are ignorant of the fact that beer is the most seductive and the most dangerous form of alcoholic beverages. As a result of this domination by the brewers of the United States of the national government, hundreds and thousands of young men who are serving their country are being made alcoholic addicts and in a few years many of them will become derelicts and dependents of the Government and they will fill the Government hospitals for the next fifty years.

Onward Christian Soldiers. The right thinking people in the United States, whose minds are not made up for them by wet newspapers, whose owners have sold their souls to the brewers and distillers for beer and whiskey advertising contracts, should demand that Congress pass laws to stop the sale of beer and all other alcoholic beverages in places where United States soldiers and sailors are being trained and all over the world where they are fighting our country's battles.

The reason that congressmen and senators are dominated by brewers of German descent, who are fostering German ideals of living on the American people, is because officeholders are afraid they will lose their jobs if they offend owners of wet newspapers and others who profit by the liquor traffic. There are a few honorable statesmen among congressmen and senators who have the courage to support legislation opposed by brewers, distillers and owners of wet newspapers; but the only thing that will impress the average politician in Washington is to show him that the right thinking citizens among his constituents will vote against him if he does not vote to prohibit the sale of beer to American soldiers and sailors. Therefore, letters sent to congressmen demanding that they vote to protect our boys while serving their country in the Army and Navy from exploitation by a traffic which profits by the destruction of the bodies and souls of men and women, will help to open their eyes to see that if they do not support such a bill they are serving distillery saboteurs instead of all the people of this nation.

The campaign of education which the Woman's Christian Temperance Union is carrying on is doing great good. It should be augmented by financial aid and active support of men and women who have the wisdom and the courage to think for themselves and who can see the menace of the liquor traffic to our nation.

The aphorisms "right will prevail" and "truth crushed to earth will arise again" and "the survival of the fittest" are truisms which history shows are not based on facts. Certainly right is not prevailing in this world and in our own country in this critical hour of our history; and it will not prevail until an enlightened public rises up and crushes brewery and distillery saboteurs before they destroy civilization. We must continue the educational fight until every man, woman and child in this free nation knows the truth regarding beer, wines, whiskey and other beverages which contain the harmful, habit forming toxin and narcotic, ethyl alcohol. Then, and not until then, will brewery and distillery saboteurs cease their efforts to wreck this world.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The question of our state meeting next year has already been raised. Personally we are opposed to the postponing of any local, district or state medical meetings. We did miss some school days when a boy, but not the days when there was rain, snow or sleet, and on such days we would not even allow ourselves to be late. Never has there been such a challenge to the medical profession, never have the opportunities been so big. We must keep the latest and best medical information flowing into service for the people. The national associations may be wise in not meeting, though we doubt it, but surely the local and state organizations should keep their lines taut. If all the doctors of the county can not attend a meeting, let one go and report back to the rest, and then another to another. The lack of medical meetings may endanger free medicine. After the war America will be the outstanding medical center of the world. Let us hold the lines and push to the front with a determination to do our full duty or die in the effort. Let us think very seriously before we postpone our medical meetings.

Dr. Kate Savage Zerfoss of Nashville, Tennessee, is Councilor-Elect from Tennessee for the Southern Medical. She is the daughter of the late Dr. G. C. Savage, a native of Mississippi, with many relatives yet around Booneville. Her father was outstanding in his specialty throughout the nation. His brother, Dr. G. M. Savage, who served as president of Union University, Jackson, Tenn., for many years and preached for nearly a half century at the little Baptist church of Osborn, Miss., was one of the South's ablest ministers and most scholarly educators. We congratulate Dr. Garrison on this appointment. It is quite fitting and fair to have this outstanding woman physician on the council of the Southern Medical.

The presence of Dr. Robert M. Anderson of Shawnee, Okla.. will be greatly missed at the coming meeting in Richmond. His passing took from the ranks of the Southern Medical Association an able man in the profession and a most lovable character. He was the embodiment of medical integrity, a fine type of Christian gentleman, and a loyal friend whose warm and cordial heart was ever inspiring. His conduct in every way always commanded the highest respect of his fellows of the profession. He was a versatile man, able in knowledge and outstanding in wisdom. We called him "Cousin Bob" and we will greatly miss him at the coming meeting.

The journal offers its deepest sympathy to Dr. Paul H. Ringer of Asheville, North Carolina, in the loss of his wife whose death occurred last month. Dr. Ringer is the immediate past-president of the Southern Medical Association. He served the association well and ably.

HEADS SOUTHERN MEDICAL ASS'N.

Dr. Harvey F. Garrison, Sr., Jackson, Miss., President-Elect of the Southern Medical Association, will be installed as president at the coming meeting in Richmond Va., November 10-12. Dr. Garrison is a man of medical vision and outstanding ability as an organizer. He has rendered a splendid service in the field of pediatrics in his own state. During his entire career he has been an outstanding leader in progressive medicine in our state, in the Southern and in the American medical associations. The doctors of Mississippi appreciate the fine work of Doctor Garrison. We believe he will make one of the ablest presidents the Southern has ever had. The following is a message from him to you:

To the Doctors in My State

I extend a cordial invitation to all of our medical friends in Mississippi to attend the meeting of the Southern Medical Association in Richmond from November 10-12. I have seen a tentative copy of the program, and I can assure you as well as other members of our profession in this state that it is a most outstanding program.

The pediatric program, planned as a joint meeting of Region II and the Academy, is one of the most outstanding programs I have seen slated. I am sure all of the physicians in Mississippi who go to the Southern will enjoy this part of the program, for, as is customary, the Region II meeting of the American Academy of Pediatrics will be open to all physicians alike.

I know that all of our physicians are immensely overworked. I am being very much overworked since my son, Dr. Harvey F. Garrison, Jr., has been in the service over a month and we have lost the services of two other pediatricians besides him from Jackson. It, therefore, leaves a great deal of the burden of the work of all these men on me. I would not ask my friends in Mississippi to sacrifice their work and time to go to the Southern this year on my account, but those who can possibly get away, I can assure them that we are going to have a most outstanding program and there is a possibility that we may not have a meeting next year.

From Dr. W. H. Anderson

As councilor for Mississippi we wish to join Dr. Garrison in extending and urging every doctor of our state who possibly can to attend the coming meeting in Richmond November 10-12, inclusive. We congratulate the management of the Southern in going ahead with this meeting, which is the part of wisdom. It is not the time to pull back on organized medicine; it's the time to press on. The percentage who can attend may not be as large this year, but we are sure enough can go to bring back to those who can not the essentials in the advancement of medicine. The challenge now is for a total effort on the part of the medical profession to keep the best medical service going to all the people.

The doctors of Mississippi should feel a pride in the coming meeting since one of our own is to be installed as president of this great organization. Mississippi has been outstanding in furnishing presidents and we feel that this has been due to our number of outstanding doctors who have been active in service in the Association. Dr. Garrison will make one of the best presidents the Association has had. Let us show our appreciation of him as much as responding to our duty at this time for our own benefit and for the good of our clientele. Almost anyone can attend a meeting when everything is all right, but this is the time to test the men of real value, the men who are willing to put the supreme effort to deliver their best service.

From information available to me Mississippi has furnished her quota of doctors to the service. There are about 1400 doctors in the state and about four hundred and fifty of these have been accepted. In rough figures, this is about 27% of the licensed doctors in the state. Forty-four per cent of the active physicians in Monroe County are already commissioned and in the service. So we feel that we have done our bit, and are glad that we have. The eight doctors left in the county (all of them beyond military age) must care for the medical needs of forty thousand people. Can we do it? We are willing to try to the limit of strength and endurance. However, we are desperately in need of a man who can do good surgery. We have a nice hospital that is well equipped and well managed. It is an endowed institution. We had three good surgeons who were kept busy and all were making money. But they are all in the service now. So if any one reads these lines who feels he can qualify and has patriotism sufficient to lead him to come to the rescue for the duration, at least, he may feel certain that good money and a hearty welcome awaits him in Amory, Monroe County. If interested, please investigate; if not interested, please pass the word down the line.

It is now ten months since Pearl Harbor and the public seems just to be waking to the realization that a real war is on. Few sacrifices have, as yet, been necessary. But from now until the end (and possible much longer), sacrifice will be the order of the day. Selfishness and greed may not be eliminated but a fuller understanding of hardships and deprivation will be forced home to us all. Let us hope that we may never have to experience and endure conditions that exist in Russia. What a change in our conception of the Russian people and régime! Once they were anathema to us. Now they stand between us and a fate worse than death. No finer display of courage and heroism can be found recorded in history. Of course they are fighting for themselves and their own way of life, nevertheless our safety is dependent upon their efforts and endurance. Many of us begrudged the small assistance we have been privileged to render them. Now the attitude is different and the critics are beginning to cry "too little and too late." If it be possible we may be able to extend the helping hand in a more generous way. One hates to think of the sacrifice of life that we may be called upon to make in order that the German or Axis juggernaut may be halted and destroyed. But it is a fight to the death. One can not conceive or imagine conditions that would engulf us if we should fail to win. Much better death—yea, complete annihilation—than German slavery. But as I have long thought and frequently said, conditions will never be the same whether we fail or succeed. The old order is gone and gone forever. Let us hope that the new order that will surely follow, may be even better than the old. Those of us who are aging may never know just what is in store for our people. But let us hope that the younger and more vigorous may be inspired and enabled to build gloriously on the ruins that will follow this holocaust.

Back to things medical, let me say that I tremble at the thought of what is before us. No other profession or branch of science has excelled us in the recent past. But what of our future progress? Perhaps war conditions may open new avenues of progress; on the other hand, it is possible that we may lose our way. Even now medical meetings are being called off. Among these may be mentioned the A.M.A. and our Mid-South Postgraduate Medical Assembly. Let us not lose interest in our state and district gatherings. The September meeting of the Northeast Thirteen Counties was a success but the attendance was short of what it should have been. I wish that many who did not come might have done so. I am sure that all who came were well repaid for their effort and trouble. Please remember the December meeting to be held at Tupelo and be sure to come. Every member who is alive to his duty and his best interest is expected to be there.

—G. S. B.

Deaths

Dr. John Green, 53, formerly a resident of Drew, in Sunflower County, died at his home in Winter Park, Florida, Saturday, August 29.

Dr. Green moved to Florida a number of years ago and established a good practice. He had friends in Mississippi who regret to learn of his death.

Dr. Green was a graduate of Jefferson Medical College. His practice included locations at Kaw City, Okla., Hamilton, Texas, and Sheriday, Wyo., before going to Florida.

Dr. William Jones Smothers, age 83, died Aug. 28 at 4 o'clock at his home in Cedar Bluff.

Funeral services were conducted Saturday afternoon at 2 o'clock from the Baptist church at Cedar Bluff.

Dr. Smothers, who was born and reared in Alabama where he practiced medicine, had been a resident of Clay County for 21 years.

He graduated in 1885 from the University of Alabama, Tuscaloosa.

He is survived by his widow, Mrs. Emma Smothers, one sister, Mrs. Henry Propst of Columbus, a brother, Dr. R. E. L. Smothers of Moss Point, Ala., six nephews, Blever Wilson of Cedar Bluff, who made his home with his uncle; W. J., Fred and James

Propst of Columbus. Robert and M. L. Smothers of Birmingham, and two brothers-in-law, L. O. Wilson of Brownsville, Ala., and Henry Wilson of Tuscaloosa.

Dr. James Singleton Austin, 85, one of Warren County's most esteemed citizens, died Sept. 20 at his home in Oak Ridge community.

Born in Florence, Miss., on May 1, 1856, Dr. Austin came to Warren County during early manhood, and had been a practicing physician at Oak Ridge for more than 60 years. He one was of Warren County's most colorful men, filling well the role of pioneer physician to his rural community.

He received his medical education at the Kentucky School of Medicine, graduating in 1878.

For many years, Dr. Austin held a prominent place in the public life of the county, serving as representative in the Mississippi legislature for four terms.

Dr. Austin was a member of the Methodist Church, a Woodman of the World. He was married on March 11, 1882, to Miss Virginia Birdsong, of Bolton, who died five years ago.

Surviving are one son, Dr. Leon B. Austin of Rosedale; four daughters, Mrs. J. A. Beard, Mrs. Austin Holiday, Mrs. T. B. Henry and Miss Elmer Austin, all of Oak Ridge; two brothers, Dr. H. H. Austin of Bovina, and F. L. Austin of Oak Ridge; one sister, Mrs. N. A. Stephenson of Vicksburg; six grandchildren and one great grandchild.

News and Comments

AMERICAN COLLEGE OF SURGEONS CANCELS CLINICAL CONGRESS

The annual Clinical Congress of the American College of Surgeons which was scheduled to be held in Cleveland November 17-20, 1942, was cancelled by the Board of Regents of the College at a meeting held in Chicago October 14.

CHANGES IN THE LIST OF MISSISSIPPI PHYSICIANS

ADD:

Dr. G. I. Hislop to Centreville, Wilkinson County.

Dr. Corinne Eddy to Liberty, Amite County Health Department.

CHANGE:

Address of Dr. Ruth P. Dow, Jackson, to 4053 West Capitol Street.

Address of Dr. L. W. Long from Standard Life Building, Jackson, to State Director of Selective Service, War Memorial Building, Jackson.

Dr. J. F. Bradley from Amite County to Macon, Noxubee County Health Department.

Dr. J. E. Sandness from Yazoo County to Hattiesburg, Forrest County Health Department.

Dr. R. W. Williams from Forrest County to Yazoo City, Yazoo County Health Department.

Dr. T. M. Riddell from Leflore County to Shaw, Bolivar County.

Dr. W. D. May from Lauderdale County to Corinth and Iuka. Dr. May will live in Corinth, but will be director of both the Alcorn and Tishomingo county health departments.

REMOVE:

Dr. J. G. Young from Recruiting Station, Jackson, Hinds County.

Dr. S. O. Battles (col.) from McComb, Pike County. Serving internship.

Dr. John D. MacKellar from Woodville, Wilkinson County. Out of state.

Dr. W. J. Smothers from Cedar Buff, Clay County. Deceased.

GONE TO MILITARY SERVICE:

Dr. H. F. Garrison, Jr., from Jackson, Hinds County.

Dr. C. E. Ward from Jackson, Hinds County.

Dr. L. D. Wright from Jackson, Hinds County.

Dr. A. E. Brown from Columbus, Lowndes County.

Dr. J. R. Lavender from Columbus, Lowndes County.

Dr. S. G. Mounger from Yazoo City, Yazoo County.

Dr. D. D. Baugh from Columbus, Lowndes County.

Dr. C. F. Lacey from Thomastown, Leake County.

Dr. G. T. McPhail from Slate Spring, Calhoun County.

Dr. H. A. Whittington from Natchez, Adams County.

Dr. G. S. Hicks from Natchez, Adams County.

Dr. H. K. Rouse from Gulfport, Harrison County.

Dr. V. S. Holmes from McComb, Pike County.

Dr. W. O. Biggs from Osyka, Pike County.

Dr. F. D. Hollowell from Jackson, Hinds County.

Dr. J. J. Kazar from Tchula, Holmes County.

OFFICIAL FAMILY SOUTHERN MEDICAL ASSOCIATION

Dr. M. Pinson Neal, President
Dr. Harvey F. Garrison, President-Elect
C. P. Loranz, Secretary-Manager

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Councilors-Elect (invited to sit with the Council)

Dr. Harvey B. Searcy
Dr. J. B. Lukins
Dr. Kate Savage Zerfoss
Dr. Ray M. Bobbitt

Dr. Pinson Neal of the University of Missouri, at Columbia, will preside as president at the Richmond meeting. He is a native of Alabama. The honor of president was well and worthily bestowed when Dr. Neal was elected to the highest honor in the gift of the Southern Medical Association. For twenty years he has filled the position he now holds as pathologist in the University of Missouri Medical School. His ability is outstanding. He is a student who never lets up. He loves knowledge and his mind follows the truth as water runs downhill. He is kind hearted, generous and friendly. Those who knew him best love him most. His address at the meeting will be well worth your hearing.

MEDICAL OFFICERS NEEDED— TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority is in urgent need of medical officers who are not eligible for military service and who are willing to accept assignments to war industrial activities (construction, manufacture of war chemicals, and manufacture of hydroelectric power) as this participation in the all-out war effort. Responsibilities include physical examinations, industrial hygiene, care of injuries, medical care to families in remote construction areas, and general public health responsibilities in construction camps and villages. Salary ranges from $3200 to $4200 per annum with opportunity for promotion. For further information write to Dr. E. L. Bishop, Director of Health, Tennessee Valley Authority, Chattanooga, Tennessee, or to the Personnel Department, Tennessee Valley Authority, Knoxville, Tennessee.

PUBLIC HEALTH NURSES NEEDED

The U. S. Civil Service Commission recently issued a call to Public Health Nurses through the pages of this journal. The Commission has now asked that we print a correction regarding a statement made in their press release regarding the omission of high school education as a requirement for Public Health Nurse positions. This statement was made in error by the Commission. In effect the educational requirements for Public Health Nurses cannot be obtained without completion of high school education.

The Public Health Nurse positions pay $2,000 a year. The requirements are: Completion, subsequent to January 1, 1920, of a full course in a recognized school of nursing including 2 years in a general hospital having a daily average of 50 bed patients or more; registration as a graduate nurse; and completion of one year of study in public health nursing at a college giving a course of study approved by the National Organization for Public Health Nursing. One year of public health nursing experience is also necessary.

Other nursing opportunities open in the Federal service include the following: Junior Public Health Nurse, $1,800 a year; Graduate Nurse, $1,800 a year; Junior Graduate Nurse, $1,620; Graduate Nurse for the Panama Canal service, $168.75 a month; Nursing Education Consultant, $2,600 to $4,600 a year; and Public Health Nursing Consultant, $2,600 to $5,600 a year.

Except for Panama Canal service there are no age limits for any of these positions. Applications will be accepted at the Commission's Washington office until the needs of the service have been met.

FOR SALE—Complete diagnostic x-ray and fluroscopic equipment including 2 tubes, tilt-up table, detached bucky. Motor compressor cooled developing tank. All ready for installation and use. Also for sale, other equipment including instrument cabinets and instruments. Casa Collier, M.D., 1074 Madison Avenue, Memphis, Tenn.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.
Eye—Alston Callahan, Vicksburg.
Ear, Nose and Throat—Edley Jones, Vicksburg.
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H, Blake, Jackson.
Pathology and Clinical Pathology—John C. Henthorne, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Public Health—Felix J. Underwood, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.
Discussion and comments are invited.

PEDIATRICS

"ORAL PROPHYLAXIS FOR POISON IVY DERMATITIS IN CHILDREN"—Leon Goldman, M.D., Cincinnati, Ohio—American Journal of Diseases of Children—V. 64: pp. 241, August 1942.

The author reports that in spite of the widespread use of various types of specific prophylactic measures for poison ivy dermatitis, the true value of such treatment still must be proved. The problem is especially important for children; because of the frequency of this form of dermatitis among them and the ease of extensive secondary infection when the dermatitis occurs.

It is stated that this report is concerned only with the analysis of the value of the oleoresin extract of poison ivy as a specific prophylactic agent when given by mouth. It is understood that the oldest form of specific prophylaxis was the chewing of the leaves of the plant. It has been said that some of the American Indians used that method. Alderson reported that fatalities resulted occasionally among the California Indians and Mexicans from the eating of leaves of poison oak, the toxic substance of which is very closely related to that of poison ivy, if not actually the same.

The author states that by the use of Shelmire's antigen and technic there has been definite progress in producing a specific prophylaxis against poison ivy dermatitis.

A similar antigen administered orally was used as a prophylactic agent for 39 children with a history of repeated episodes of poison ivy dermatitis. Thirteen patients had quantitative tests for cutaneous sensitivity to poison ivy before and after treatment, and 11 of these children showed definite improvement in cutaneous sensitivity after ingestion of the antigen.

Eighty-nine per cent of the patients had reactions to the extract when the initial dose was 3 drops a day, and 28 per cent had reactions when the initial dose was started as 1 drop every other day. There were no visceral reactions in this series.

Suggestive evidence of a decrease in cutaneous sensitivity to poison ivy was the fact that only 4 patients in the entire series acquired poison ivy dermatitis from presumed ordinary exposure. No special controlled field contact tests were done.

As a method of providing adequate doses of antigen these new potent oral antigens with their prolonged schedule of dosage are advised. Whenever possible, quantitative tests of cutaneous sensitivity should be done before and after treatment in order to follow the patients more critically. More controlled exposure tests should be done before these antigens are advised for routine, uncontrolled use.

In view of the long duration of the oral prophylactic treatment it is evident that this treatment should be initiated by the middle of March if possible.

COMMENT

There is a possible virtue in this suggested prophylactic measure to be given by mouth for poison ivy. I believe that it merits consideration and trial, since this condition is quite troublesome at times for the children of our country.

State Board of Health

Felix J. Underwood, M.D.

How The Public Health Library Can Contribute To Health Education

by

E. Louise Williams, Librarian

In promoting community health, it has been discovered that a well-equipped public health library can enhance tremendously the efforts of health education leaders. Public libraries have proved important education assets for decades, and sufficient recognition has been given the advantages which accrue therefrom to the point where any community of any size would not consider its municipal structure complete without adequate provision for support of such institutions. However much good may have been promoted in various fields through the rich resources of these collections, it goes without saying that few public libraries keep their literature on health subjects adequate and up to date.

Sometimes this condition may be due to economic restrictions or to the lack of far-sightedness of library committees in selecting or approving sound books in the rapidly changing and advancing fields of science and health. Yet when one considers that few topics excel health from the standpoint of personal interest, it is readily acknowledged that a large proportion of the public would be glad of the opportunity to quench their thirst for additional health knowledge if sound books, suitable for lay consumption, were placed before them. Consequently, it is unfortunate that so important a subject should be neglected.

Since, however, a definite lack of such material does exist in the average public library and many communities do not even have a library to which they can look, it seems timely to explore a few of the possibilities and opportunities of the health department's library to help supply these needs and thus make a contribution of no small importance to the general health education program. Due to the fact that the resources of the county health department are usually very limited, it usually proves advantageous to make use of the more extensive collection in the central offices of the state health department.

The Library of the Mississippi State Board of Health was organized in 1936 to serve out only the technical and general reference needs of its personnel, but to assist physicians, dentists, nurses and others in acquiring additional knowledge relating to their special fields. All the basic sciences are well covered in this collection by standard texts and manuals, supplemented by a good selection of the periodical literature. The material ranges from the simply-presented for easy consumption by the layman to the advanced clinical treatise for exploration or perusal by the investigative physician or research worker. Advanced clinical material is not recommended for lay use, due to the fact that it is likely to confuse more often than to help the individual seeking information on a given subject. The librarian must, therefore, use discretion and not give the layman more health material than he is able to 'digest.' To do so would defeat the purpose of the library's existence and impede rather than promote health education.

For several years, the State Board of Health Library has maintained a policy of coöperating with public and school libraries, lending them authoritative health works upon request, realizing that broader application of modern knowledge will result in much better community health. Premedical students have been assisted and coöperation has been given civic groups, the WPA Extension Library Service and to teaching groups needing supplementary materials for special courses conducted on health topics. Physicians have utilized the State Board of Health Library frequently in preparing papers for lay audiences and have rendered valuable service in health education. A number of teachers have availed themselves of the resources of this collection and through them it is believed that numerous students have benefited from the knowledge acquired.

Perhaps in no field is the need for health education so great as in the schools, for it is during the early years of life that health teaching really counts. Consequently, as the teacher is able to impart such fundamentals to the student, the whole community eventually benefits. Therefore, it is considered of greatest importance that the teacher be well-qualified for health teaching. In addition to any specific training she may receive, authoritative health works should be placed in her hands for supplemental study and appraisal with a view to utilizing the knowledge gained in the classroom.

Here, again, the county health department reference shelf can prove helpful, if for nothing more than introducing her to the type of assistance she can count on through the State Board of Health Library. Once she finds how useful and helpful its resources can be—to say nothing of how interesting and illuminating—she will be a faithful patron for all times.

The average county health department cannot hope to maintain a collection covering the entire field of subjects relating to health and keep it up to date at all times. The cost alone would make this prohibitive.

However, with judicious selection, it can maintain a very helpful collection which can be supplemented from time to time by use of the larger collection of the State Health Department proper. There are excellent sources of free or inexpensive pamphlets and materials which can and should be utilized. Among them are the publications of the United States Public Health Service and the Children's Bureau, especially prepared for purposes of education by competent individuals. Other authoritative materials on health may be had from such sources as the following:

American Medical Association, Bureau of Health Education, 535 N. Dearborn Street, Chicago, Ill.

American Social Hygiene Association, Inc., 1790 Broadway, New York City.

American Society for the Control of Cancer, Inc., 350 Madison Avenue, New York City.

American Dental Association, 212 East Superior Street, Chicago, Ill.

American Public Health Association, 1790 Broadway, New York City.

Bureau of Home Economics, U. S. Dept. of Agriculture, Washington, D. C.

John Hancock Life Insurance Agency, Boston, Mass.

Metropolitan Life Insurance Company, New York City.

Mississippi State Board of Health, Jackson, Mississippi.

National Committee for Mental Hygiene, 1790 Broadway, New York City.

National Dairy Council, Chicago, Ill.

National Safety Council, 20 North Wacker Drive, Chicago, Ill.

National Education Association, 1201 16th Street, N. W., Washington, D. C.

National Tuberculosis Association, 1790 Broadway, New York City.

There are numerous other agencies which deserve mention but space does not permit a more extensive list here. It would be well for local health department personnel to acquaint themselves with the widely scattered health education resources at their command. Much assistance in this regard may be had from the State Board of Health Library.

Among the books which might prove useful for a "health information" shelf are such as the following:

1. Clendening, L.—*The Human Body*. N. Y., Knopf, 3d ed., 1937. ....$3.75
2. Chenoweth, L. B. and Morrison, W. R.—*Community Hygiene*. N. Y., Crofts, 1941. .. 2.60
3. Colcord, J. C.—*Your Community: Its Provision for Health, Education, Safety*, N. Y., Russell Sage, 1941. .... .85
4. Diehl, H. S.—*Healthful Living*. N. Y., McGraw-Hill, 1941. .... 2.75
5. Grout, R. E.—*Health Education for Rural Teachers*. N. Y., Doubleday, Doran, 1936. .. 1.80
6. Smiley, D. F. and Gould, A. G.—*Personal and Community Hygiene*. N. Y., MacMillan, 1941. .... 4.00
7. Stimson, A. M.—*The Communicable Diseases*. Washington, U.S.P.H.S., Misc. Pub. No. 30, Govt. P. O., 1939. .... .25
8. Turner, C. E.—*Personal and Community Health*. Phila., Saunders, 5th ed., 1939. .... 3.00
9. Williams, Jesse F.—*Personal Hygiene Applied*. Phila., Saunders, 7th ed., 1941. ...... 1.60
10. American Dental Association—*Teeth, Health and Appearance*. Chicago, A. D. A. 1.50

(For further information on such items as "nutrition," etc., see list at end of this article of books recommended as basic equipment for the county health department.)

With so many acceptable books being published, this list is of course not all inclusive. It is merely a suggested list of helpful tools for reference use by the laity and health education forces and calls for revision as new and better books made their appearance. To supplement this information shelf, the local health department should regularly subscribe to such periodicals as *Hygeia* (published by the A. M. A., Chicago), *Journal of Health and Physical Education* (published by the American Physical Education Association, Ann Arbor, Mich.), *Mental Hygiene* (published by the National Committee for Mental Hygiene, New York City), and ask to be placed on the mailing list to receive the Bulletin of the National Tuberculosis Association and similar publications.

The foregoing suggestions presuppose that the county health department will by all means have certain professional tools in the way of books and journals for guidance of its own staff. Such equipment takes precedence over any materials and will be found of immeasureable help in the general health education program in addition to serving the reference needs of the county health department personnel.

Smillie† has given suggestions for a "Two-Foot Reference Shelf" for local health department personnel, which are very good. However, since his list was published a number of excellent works have appeared which merit consideration. No list can hope to serve as criteria for all times because of constant change and revision. However, the frequently expressed need of local health departments for a list of sound reference tools has led to the following complication, which we believe can be recommended as basic equipment for a local health department.

Public Health Administration (useful reference books for all personnel).

1. Rosenau, M. J.—*Preventive Medicine and Hygiene.* N. Y., Appleton-Century, 6th ed., 1935. .... $10.00
2. Mustard, H. S.—*Rural Health Practice.* N. Y., The Commonwealth Fund, 1936. .... 4.00
3. Dunham, G. C.—*Military Preventive Medicine.* Carlisle Barracks, Penna., 3d ed., 1938. 3.25
4. *Hiscock, I. V.—*Community Health Organization.* N. Y., The Commonwealth Fund, 1939. .... 3.00
5. *Smillie, W. G.—*Public Health Administration In the U. S.* N. Y., Macmillan, 2d ed., 1940. .... 3.75
6. American Public Health Association—*Appraisal Form for Local Health Work.* N.Y., A. P. H. A., 1938. .... 1.00
7. *N. Y. Academy of Medicine—*Preventive Medicine In Modern Practice.* N. Y., Hoeber, 1942. .... 10.00

Sanitation

1. Ehlers and Steel—*Municipal and Rural Sanitation.* N. Y., McGraw-Hill, 2d ed., 1937.. 4.00
2. *Shrader, J. H.—*Food Control—Its Public Health Aspects.* N. Y., Wiley, 1939. .... 4.00
3. See also Dunham, G. C.—*Military Preventive Medicine,* (listed above).

*Optional, but very desirable, and should be included if budget permits.

1. Smillie, W. G.—*Public Health Administration in the U. S.* (Pages 539-541) N. Y., Macmillan, 2d ed ed., 1940.

Public Health Nursing

1. Gardner, M. S.—*Public Health Nursing.* N. Y., Macmillan, 3d ed., 1936. .... $3.00
2. N. O. P. H. N.—*Manual of Public Health Nursing.* N. Y., Macmillan, 3d ed., 1939. .... 2.50

Communicable Disease Control and Immunology

1. Stimson, P. M.—*A Manual of the Common Contagious Diseases.* Philadelphia, Lea & Febiger, 3d ed., 1940. .... 4.00
2. Anderson, G. W. and Arnstein, G. G.—*Communicable Disease Control.* N. Y., Macmillan, 1941. .... 4.25
3. A. P. H. A.—*The Control of Communicable Diseases.* N. Y., A. P. H. A., revised ed., 1940. .... .25
4. Moore, J. E.—*The Modern Treatment of Syphilis.* Baltimore, Thomas, 2d ed., 1941. .. 7.00
5. *Top, F. H.—*Handbook of Communicable Diseases.* St. Louis, Mosby, 1941. .... 7.50
6. Zinsser, Enders and Fothergill—*Immunity: Principles and application in medicine and public health.* N. Y., Macmillan, 1939. .... 6.50
7. *Sherwood, N. P.—*Immunology.* St. Louis, Mosby, 2d ed., 1941. .... 6.50
8. *Kolmer, J. A. and Tuft, L.—*Clinical Immunology, Biotherapy, and Chemotherapy In the Diagnosis, Prevention and Treatment of Disease.* Philadelphia, Saunders, 1941. .. 10.00

Health Education

1. Bauer, W. W. and Hull, T. G.—*Health Education and the Public.* Phila., Saunders, 2d ed., 1942. .... 2.75
2. Hiscock, I. V.—*Ways To Community Health Education.* N. Y., The Commonwelath Fund, 1939. .... 3.00

School Health

1. Walker, F. and Randolph, C.—*School Health Education.* N. Y., The Commonwealth Fund, 1941. .... 1.50
2. Nyswander, D. B.—*Solving School Health Problems.* N. Y., The Commonwelath Fund, 1942. .... 2.00
3. *Strang, R. N. and Smiley, D. G.—*Role of the Teacher In Health Education.* N. Y., Macmillan, 1941. .... $2.00
4. *Amer. Assn. of School Administrators—*Health In Schools, 20th Yearbook.* Washington, National Educ. Assn., 1942. .... 2.00
5. Joint Committee on Health Problems in Education of the N. E. A. and A. M. A.—*Health Education.* Washington, N. E. A. 3d ed., 1941. .... 1.50

Nutrition

1. Hawley, E. E. and Carden, G.—*The Art and Science of Nutrition.* St. Louis, Mosby, 1941. .3.50
2. *Cooper, Barber and Mitchell—*Nutrition In Health and Disease.* Phila., Lippincott, 8th ed., 1941. .... 3.50
3. Rose, M. S.—*Foundations of Nutrition.* N. Y., Macmillan, 3d ed., 1938. .... 3.50
4. Sherman, Henry C.—*Chemistry of Food and Nutrition.* N. Y., Macmillan, 6th ed., 1941. .... 3.25

Vital Statistics

1. Hall, M. F.—*Public Health Statistics.* N. Y., Hoeber, 1942. .... 5.50
2. *Hill, A. B.—*Principles of Medical Statistics.* London, The Lancet, 2d ed., 1939. .... 2.25
3. International List of Causes of Death (5th ed.) and Joint Causes of Death, (4th ed.), 1940. .... 1.25

Mouth Health

1. Brauer, Higley and Boyd—*Dentistry for Children.* Phila., Blakiston, 1939. .... 6.50
2. Brekhus, Peter J.—*Your Teeth: Their Past, Present and Probable Future.* Minneapolis, Univ. of Minn. Press, 1941. .... 2.50

Maternal and Child Health

1. Adair, F. L.—*Maternal Care and Some Complications.* Chicago, Univ. of Chicago Press,

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†Smillie, W. G.—*Public Health Administra-* Macmillan, 2d ed., 1940.

	1939.	1.50
2.	Eastman, N. J.—*Expectant Motherhood.* Boston, Little, Brown, and Co., 1940.	1.25
	or	
	Van Blarcom, C. C. and Corbin, H.—*Getting Ready To Be A Mother.* N. Y., Macmillan, 4th ed., 1940.	2.50
3.	Holt, L. E. and McIntosh, R.—*Diseases of Infancy and Childhood.* N. Y., Appleton-Century, 11th ed., 1940.	$10.00
4.	Rand, W., Sweeny, M. E. and Vincent, E. L. —*Growth and Development of the Young Child.* Phila., Saunders, 3d ed., 1940.	2.75
5.	*Faegre, M. L. and Anderson, J. E.—*Child Care and Training.* Minneapolis, Univ. of Minn. Press, 5th ed., 1940.	2.50
6.	The Miscellaneous Publications of the Children's Bureau, Washington, D. C. (Very helpful and inexpensive).	

Bacteriology and Laboratory Diagnosis

1.	Frobisher, Martin, Jr.—*Fundamentals of Bacteriology,* Phila., Saunders, 2d ed., 1940.	4.00
2.	Todd, J. C. and Sanford, A. H.—*Clinical Diagnosis by Laboratory Methods,* Phila., Saunders, 9th ed., 1939.	6.00

General Reference

1.	Dorland, W. A. N.—*The American Illus. Medical Dictionary.* Phila., Saunders, 19th ed., 1941.	7.50
2.	Webster's *Collegiate Dictionary;* the largest abridgement of Webster's New International Dictionary. Springfield, Mass., G. and C. Merriam Co., 5th ed., 1936.	3.50
3.	Tainter, S and Monro, K.—*The Secretary's Handbook: A Manual of Correct Usage.* N. Y. Macmillan, 6th ed., 1941.	2.50
4.	Tobey, J. A.—*Public Health Law.* N. Y., Commonwealth Fund, 1939.	3.50
5.	*Castiglioni, A.—*A History of Medicine.* N. Y., Knopf, 1941.	8.50
	or	
	Garrison, F. H.—*History of Medicine.* Phila., Saunders, 4th ed., 1929.	12.00
6.	Underwood, F. J. and Whitfield, R. N.—*Public Health and Medical Licensure In The State of Mississippi,* 1798-1937. Jackson, Miss., Tucker Printing House, 1938.	1.00
7.	*Kurtz, R. H., Ed.—*Social Work Year Book:* Pt. 1, A Description of Organized Activities in Social Work and in Related Fields; Pt. II, A Directory of 1023 National and State Agencies in Social Work and Related Fields. 6th issue. N. Y., Russell Sage Foundation, 1941.	3.25
8.	*Goodman, L. and Gilman, A.—*The Pharmacological Basis of Therapeutics.* N. Y., Macmillan, 1941.	$12.50
9.	*United States Government Manual* (a description of the various federal agencies together with lists of officials). Washington, Govt. Ptg. Off., 1942 (3 editions a year)	.75
10.	*The World Almanac and Books of Facts.* New York World Telegram, N. Y. C., 1942 (pub. annually)	.70

It is expected that the foregoing list will prove too extensive for the smaller county health department, even though all of the books marked "optional" are eliminated. However, it is presented with the hope that from such a list much help will be derived in getting together a shelf or two of useful reference tools for efficient performance of public health duties. Additional suggestions will be given by the State Board of Health librarian upon request.

It is hoped that every county health department in the state is receiving the following periodicals, which call attention to current developments and trends, often vital to public health progress:

1. *Public Health Reports.*
   Pub. weekly by U. S. P. H. S., Washington, D. C.
2. *Public Health Engineering Abstracts.*
   Pub. monthly by U. S. P. H. S., Washington, D. C.
3. *Venereal Disease Information.*
   Pub. monthly by U. S. P. H. S., Washington, D. C.
4. *The Child*
   Pub. monthly by U. S. Children's Bureau, Washington, D. C.
5. *American Journal of Public Health.*
   Pub. monthly by Amer. Public Health, Assn., 1790 Broadway, N. Y. C.
6. *Journal of the American Medical Association.*
   Pub. weekly by A. M. A., 535 N. Dearborn Street, Chicago, Ill.
7. *Public Health Nursing.*
   Pub. monthly by N. O. P. H. N., 1790 Broadway, N. Y. C.
8. *Dental Health.*
   Pub. quar. by National Dental Hygiene Assn., 934 Shoreham Bldg., Washington, D. C.
9. *Mississippi Doctor.*
   Pub. monthly by Mississippi State Medical Association conjointly with Mid-South Postgraduate Medical Assembly, Booneville, Miss.

The State Board of Health Library has long runs of the more important journals in the fields relating to public health, and items desired may be borrowed upon request.

Preventive medicine is the outstanding trend of this period and a great literature has grown up in this particular field. The best solution to keeping abreast of current development is through a well-stocked library such as the State Board of Health has endeavored to provide. Physicians, dentists and public health workers are invited to make full use of this collection and thus speed the day when the long-sought goals of medicine and public health shall be more fully realized.

"The Library is the postgraduate school for the public health worker and physician and offers unlimited opportunity for advancing medical knowledge and research. The quality of service rendered will depend in large measure upon the quality of library maintained" . . . and may we add, that in the final analysis it will depend in even greater measure upon the extent to which the library's resources are utilized by those entrusted with the responsibility of maintaining health and welfare.

HOUSING OF HEALTH DEPARTMENTS, by Joseph W. Mountin. Pub. Health Rep. 57: 781-789, May 22, 1942. Editorial comment, Amer. J. Pub. Health 32: 1038-1039, Sept., 1942.

Dr. Mountin represents observations on the deplorable conditions existing in various parts of the country with regard to quarters in which local health departments are often housed. "There seems to be an unremitting fate," he states, "which consigns health officers and health workers to basements. In one southern community the health unit is lodged in the courthouse basement together with the county jail and the only public toilet facilities in the city. The town is now a haven for thousands of soldiers on leave and it is impossible to keep the basement orderly and clean. A dark and dreary clinic waiting room, fitted with rows of old theater seats, is flanked by the cells in which prisoners are kept . . . Another health unit is housed in an ancient structure formerly used as a school. When the school authorities abandoned the building because it was so old and dilapidated, it was placed at the disposal of the health department. No questions were asked regarding its suitability. Indeed, general opinion held that the department was now most bountifully provided for. Lacking regular equipment, the health officer must put his inventive talents to work, utilizing cast-off furniture in many instances and achieving a modicum of privacy through ingenious partitioning devices and curtains . . . One local health department in a southwestern state succeeded in getting quarters that are quite satisfactory when judged solely by the appearance of the interior. But the building entrance and the immediate surroundings are like something out of a bad dream. On one side is a combination 'juke joint,' grill, and pinball emporium; on the other a produce warehouse. From the left comes the odor of frying hamburger and onions; from the right, the stench of semi-decayed vegetable matter. Upon my first visit, as if the combination of odors and sounds was not enough to discourage me, a large rat scurried across my path when I approached the building. Through the windows of still another local unit, ones eyes met the sight of overflowing garbage pails and miscellaneous rubbish discarded by a square block of restaurants and stores.

"If a health department is concerned with the total health problem of the community and is actually doing something about it—if it is operating clinics, maintaining nursing services, giving real protection with regard to water, milk, and food, assisting in civilian defense, and carrying on a health education program which reaches the people—then it has a right to expect consideration from the community. If a local unit is miserably housed and equipped, if it is relegated to a dark basement or drafty auditorium, then it is not only hindered in the performance of its work but it fails to get the unstinting public support its efforts should command . . . "

Perhaps, as the editor of the *American Journal of Public Health* points out, "there has been justification in the acceptance of expedients and compromises in health department quarters. It may be that if this had not been done many communities which now enjoy health service of a sort would not be as well off as they are. As against this, though, is the everpresent danger that compromise measures (which are usually necessary in the up-hill pull to get full-time local health service established) tend to freeze into permanent practices.

"On the positive side, separate and distinctive quarters have much to commend them. Aside from providing an opportunity for more nearly adequate and better work, the presence of a dignified and inviting health center has an important bearing upon the amount and kind of use which the community will make of the health services, and the regard in which the public holds the health department."

COMMENT

Some progress has been made recently in Mississippi in constructing the type of buildings recommended for local health departments. However, there is still a great distance to go before all counties shall have achieved this object. As Dr. Mountin has stated, "A health department housed in adequate headquarters and properly administered will be a vital force in the community. It will establish itself in the people's hearts and minds as the focal point from which community health activities proceed. Under such circumstances, the health center becomes in fact what in theory it should be, a worthy monument to the science which combats human illness and promotes longer, happier, and more useful living."

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CENTRAL MEDICAL AUXILIARY

On October 6 the members of the Central Medical Auxiliary met at the Edwards Hotel for the fall meeting, presided over by the president, Mrs. James Grant Thompson of Jackson. Meeting jointly with the Central Medical group, the Executive Board for the state organization enjoyed the luncheon program and met afterward for a business session.

Lovely cut flowers spaced in mixed arrangements along the length of the three tables added a festive note to the delightful occasion. During the three-course luncheon served the group Miss Martha Sheffield, daughter of Dr. and Mrs. H. C. Sheffield of Jackson, regaled her audience with several vocal numbers. Mrs. Thompson urged continued work in war-related activities, especially volunteer selling of war bonds. She welcomed the members of the Executive Board, and presented Mrs. V. B. Philpot, president of the state organization, whose address follows:

While I greatly appreciate the honor, I realize my shortcomings as an executive head of an organization of doctor's wives representing the Mississippi State Medical Association.

I am happy to have the opportunity of being your guest today. The Executive Board meeting was planned without any knowledge of the time of the regular meeting of the Central Medical Auxiliary. 'Twas a lovely gesture of your president, Mrs. Thompson, to extend to us an invitation, on your behalf, for a joint luncheon with you today, on this occasion. Your hospitality always abounds. These lines describe you exactly:

> "There are folks whose friendly cheer
> Warms all the world about them,
> Whose service and loyalty are so sincere
> That none can ever doubt them
> Folks you can love because they are true,
> Steadfast, dependable—folks like you."

To an auxiliary like yours, I come for inspiration instead of bringing it. I sincerely commend you on all of your achievements both past and present and especially on the project you are now stressing—buying and selling of Defense Stamps and Victory Bonds.

I want to stress the importance of the *Bulletin* and *Hygeia* subscriptions. The *Bulletin* is the one medium from which auxiliary members may become informed members. It has complete counsel and information from all national officers. Every doctor's wife should be a subscriber. *Hygeia,* of course, is authentic professional information for ourselves and the laity. The new edition of the *Handbook* is very essential in self-education and it is imperative that all officers use it.

I regretted keenly not being able to attend the National Auxiliary Meeting to the A. M. A. in Atlantic City last June. Plans and reservations were all made to attend, but due to unavoidable circumstances which arose the last minute, plans failed to materialize. A letter from the national president, Mrs. Haggard, preceding the Convention states: "There never has been a time when we, the Auxiliary, were so much on trial. It will take the combined strength of our whole national organization to combat the threat of socialized medicine which heretofore has been more talked about than acted against. In a recent letter from one of our Advisory Council I was asked to include in my inaugural address that 'insofar as the conduct of essential war measures is concerned, there should be complete national unity, but, unfortunately, it seems to be true that there are those in high office who are capitalizing on some phases of the war program for the purpose of promoting plans that will, in my opinion, certainly aid in establishing socialization and political control of medicine.' It would be wise for every member to be on the alert and take advantage of every opportunity to educate the public in demanding that the present system of medical administration of medicine and treatment be left as it is without interference."

As a continuation of last year's national program, health education for defense is the primary objective. This is a broad subject and covers many phases of defense work. A complete program outline has been compiled and sent out by the national program chairman. This subject matter has been taken up in a very interesting way by her in an article published in the August *Bulletin* and which is headed "The Creed of a Doctor's Wife in Wartime." I insist that each of you read this article and use as much of this material as possible in your program this year. There are just a few of these topics which I should like to leave with you and which I think are of vital importance:

(1) Special study of local health problems, particularly those made acute by military and defense plants.

(2) The advantage of a nutrition council in each auxiliary, for study of standard courses in nutrition by canteen workers.

(3) How women can help to control inflation.

(4) Quiz programs. Write the national chairman for a copy of "Be Informed" and base other quiz programs on this, using your county and state auxiliary, state history, *Hygeia*, and the new auxiliary *Handbook* as a source of material for these quiz programs.

(5) Panel discussions, with county or state officials as guest leaders.

(6) Instruction in public speaking, replacing regular programs, so that auxiliary members may become well-informed and interesting speakers on topics of health and medical economics.

(7) Morale and mental hygiene. In my opinion this is one of the most important subjects of the day. I refer you to a paper of Dr. T. A. Watters of New Orleans read at the State Medical Meeting here last June and which was published in the August issue of *The Mississippi Doctor.*

(8) What is a physical health examination? And how the American public, and especially the doctors' wives may keep fit by having a yearly check-up.

(9) A special Doctors' Day program. Commemorate pioneer doctors of the community. Keep in contact with and help the wives of local doctors who are away in the service.

Of course, we all are anxious to help in every phase of defense work both directly and through various organizations. This is fine and as it should be, but let's remember that a doctor's wife's service is more valuable through her medical auxiliary than through any other channel.

These are resolutions read and adopted at the National Convention and which pertain to us directly:

"WHEREAS, Our country is now at war and many physicians have entered the service; and

"WHEREAS, It is the duty of the members of the Woman's Auxiliary to the American Medical Association to render what assistance they can in the nation's war effort; and

"WHEREAS, Some of the auxiliaries to both county and state medical societies have coöperated with the government in the sale of U. S. War Savings Stamps and Bonds; therefore

"BE IT RESOLVED, That the Woman's Auxiliary to the American Medical Association urge all state auxiliaries to adopt as one of their chief objectives the promotion of the sale of U. S. War Savings Stamps and Bonds; and

"BE IT FURTHER RESOLVED, That a copy of this resolution be sent immediately to presidents of auxiliaries to state medical societies.

In these trying and upset days there seems to be a tendency to drop what one has been doing and to concentrate on war work, which is as it should be, provided one does not limit the field of war work too much. Our auxiliary should be counted as part of our war work for, as Dr. Nathan Van Etten said last year in Cleveland, 'fighting disease is as important as fighting the enemy.'

"WHEREAS, a realization that this threat to our Auxiliary work may result in the loss of membership, now

"BE IT RESOLVED, That the members of the Woman's Auxiliary to the American Medical Association assembled in Atlantic City in the year 1942 go on record as pledging that they will continue to be active workers in their own county and state auxiliaries as well as in the national body and will continue to participate in Auxiliary work in the future as they have in the past; and

"BE IT FURTHER RESOLVED, That those present at this meeting will carry this message home to their respective auxiliaries believing that we owe this to the medical profession, for never before has it been so important that we have a strong organization ready at all times to assist the families of physicians and also ready for the rehabilitation program that will necessarily follow this war.

"So, may we be truly an auxiliary to the Mississippi State Medical Association and do our best, remembering that the power of any cause is the strength and zeal of its workers. Our nation can not win this war unless every organized group as well as every individual member makes an outstanding contribution toward national defense and, too, let's keep our organization strong."

"The world is needing you and me
Wherever we find ourselves to be
Some near the top of the ladder,
Some one on each lowly rung,
But by unified efforts, success will be won."

EXECUTIVE BOARD MEETING

Officers gave their reports and discussed plans for the year. Dr. Wall struck the note of the meeting with the poignant remarks he made concerning the role of the doctor's wife during the war emergency. He emphasized her part as a true aide, an inspiration to her husband and a morale builder for the community in which she lives. He pled for better informed doctor's wives.

Mrs. J. K. Avent's suggestion that doctors' wives can be examples of faith and willing sacrifice was illustrated by the story of an avenue of beautiful palms in Central America which were cut down to further the military plans, and of the woman who had lovingly tended them. This woman found that in giving up their beauty her part was small compared to the young lives cut down on Bataan.

Members of the Executive Board present included: Mrs. V. B. Philpot, Houston; Mrs. H. C. Ricks, Jackson; Mrs. W. K. Stowers, Natchez; Mrs. Henry Boswell, Sanatorium; Mrs. W. H. Anderson, Booneville; Mrs. Stanley A. Hill Corinth; Mrs. George Riley, Jackson; Mrs. Harvey Garrison, Sr., Jackson; Mrs. W. C. Pool, Cary; Mrs. John B. Howell, Canton; Mrs. A. G. Wilde, Jackson; Mrs. R. B. Caldwell, Baldwyn; Mrs. J. K. Avent, Grenada; Mrs. H. C. Sheffield, Jackson; Mrs. H. L. Rush, Meridian; Mrs. C. M. Speck, Jackson. Dr. J. P. Wall of Jackson represented the Advisory Council. Mrs. E. C. Parker of Gulfport, a past-president, was also present.

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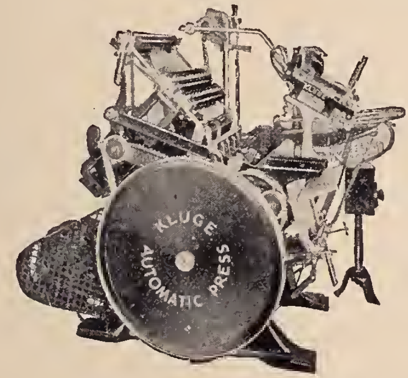

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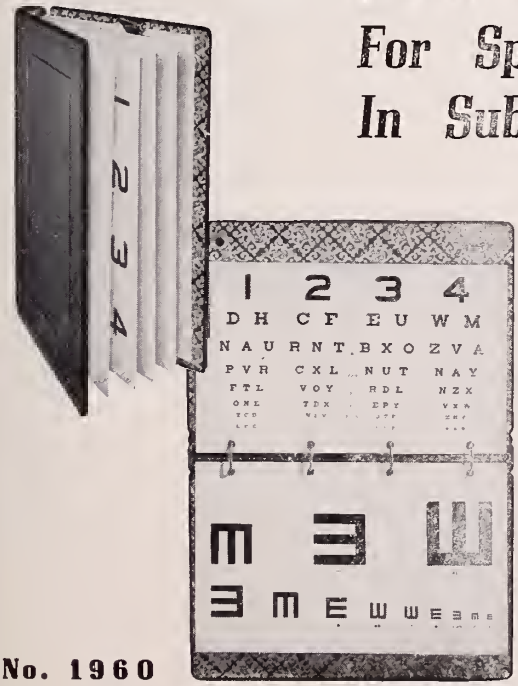

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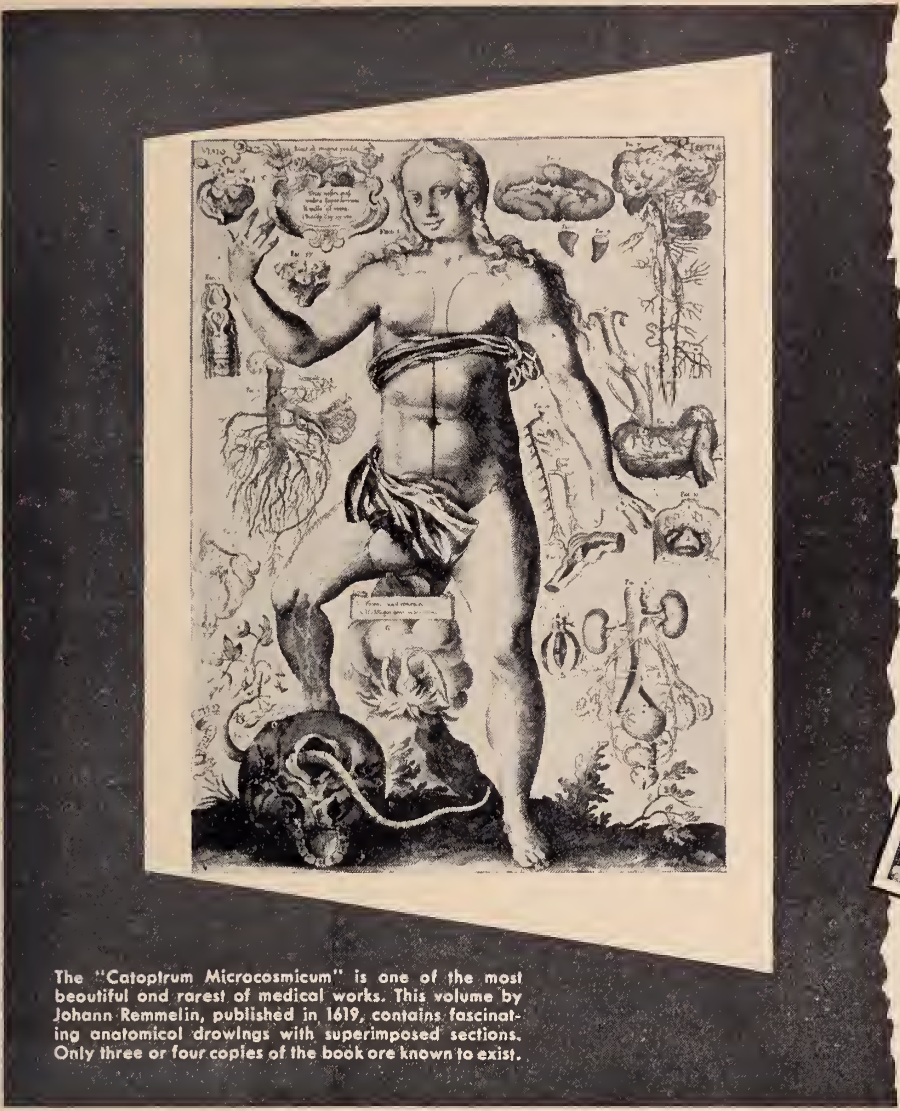

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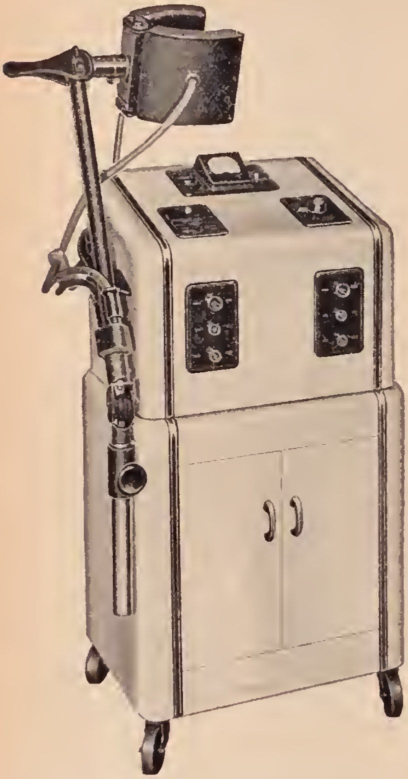

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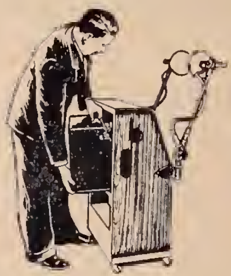

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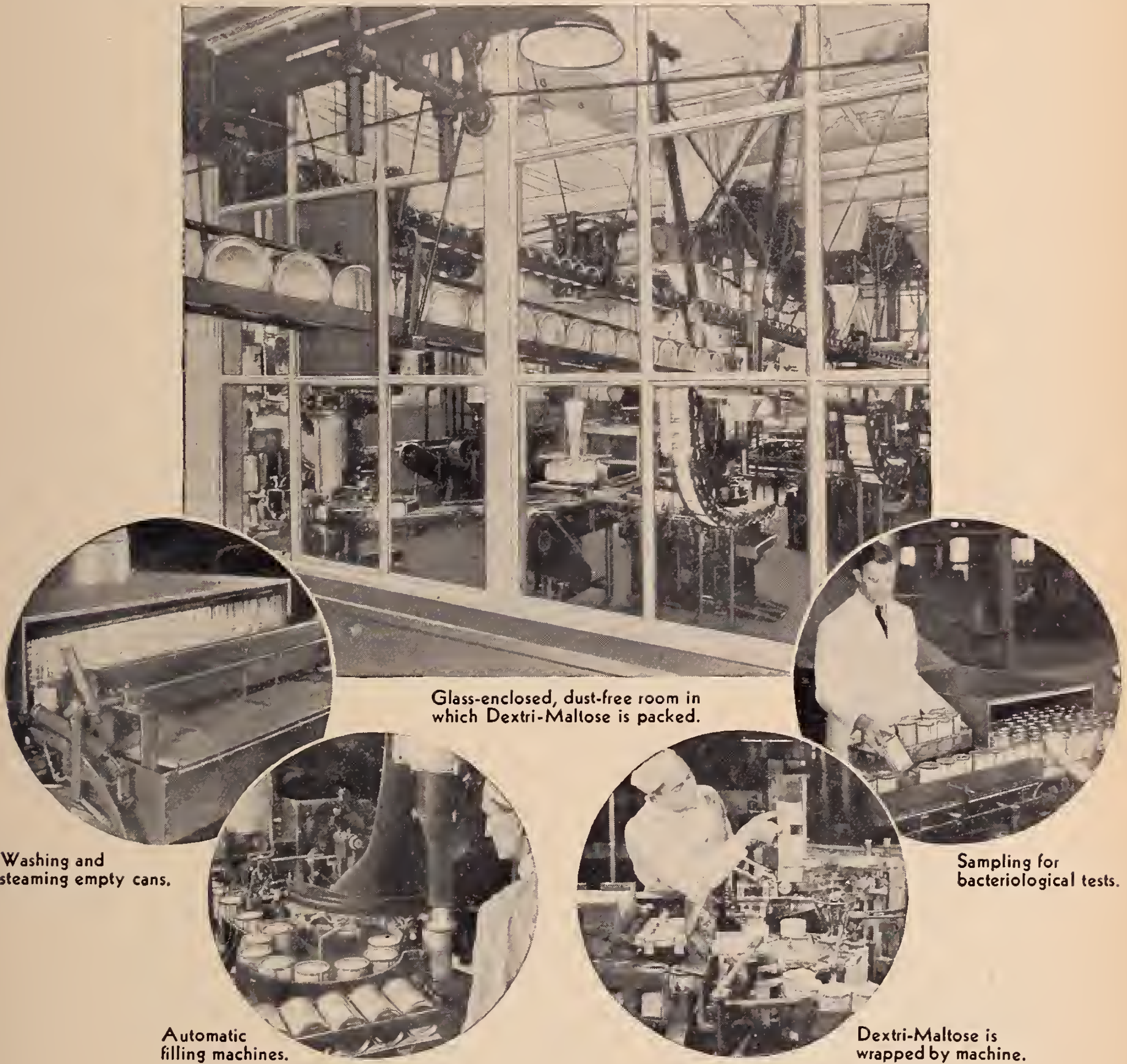

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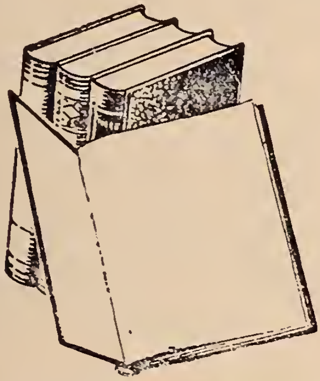

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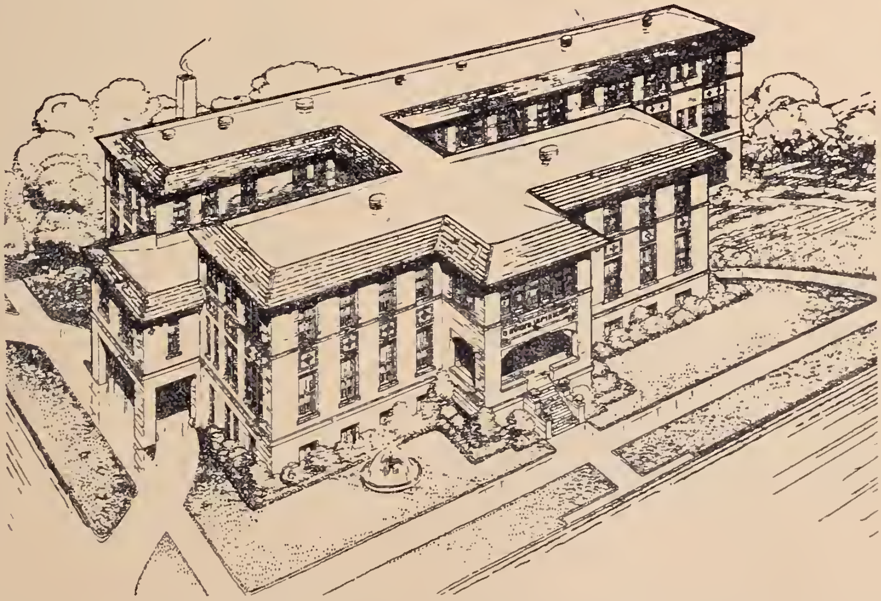

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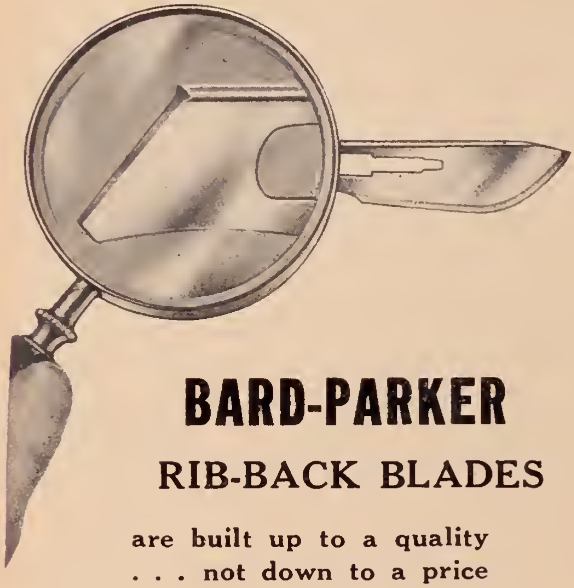

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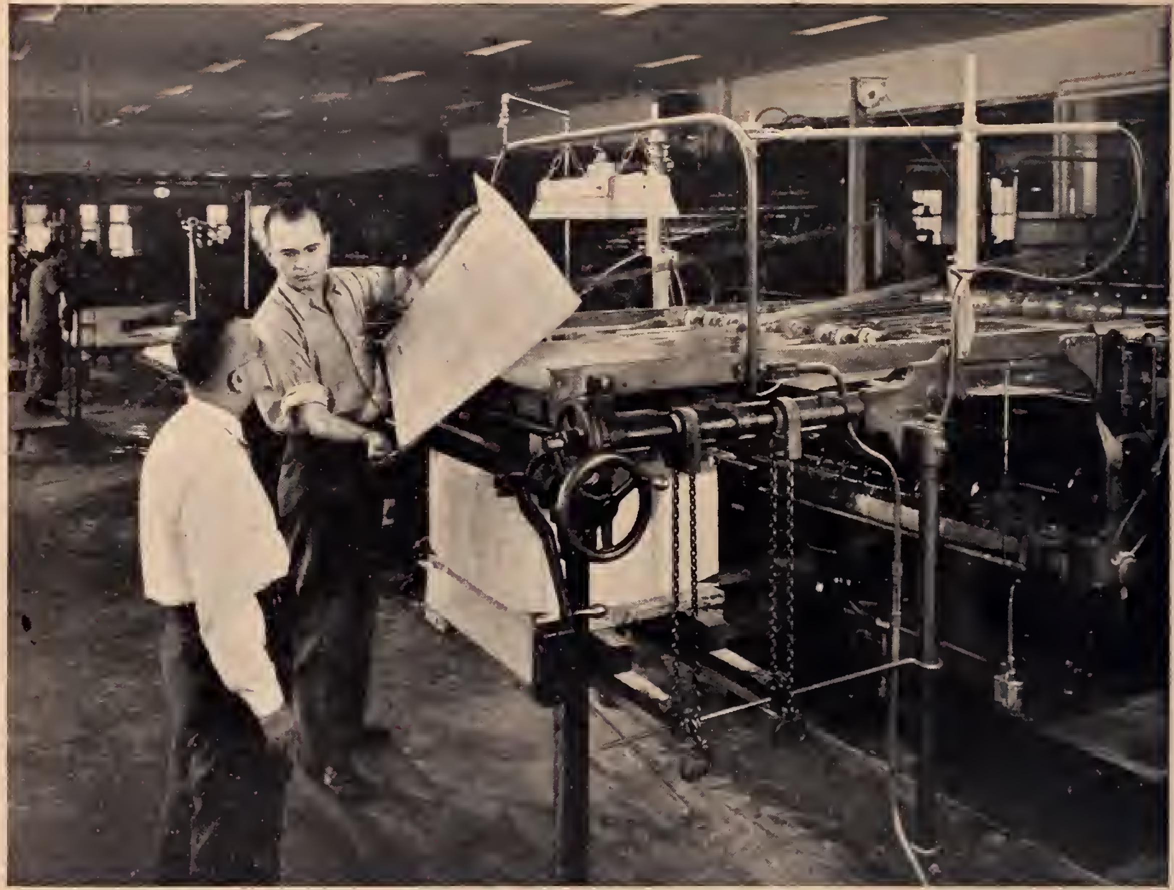

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The Mississippi Doctor

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Hypertensive Heart Disease*

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HYPERTENSIVE HEART disease is one of the most common cardiopathies encountered in the daily practice of medicine. It is second only to coronary disease, with which it is associated in a remarkably great number of instances. The reason for the frequent coexistence of these conditions rests chiefly on two factors: (1) that both hypertension and coronary disease occur predominantly in the same period of life (forty-five to sixty-five years), and (2) that hypertension is capable of accelerating the accustomed atherosclerotic process of aging. Hypertensive heart disease is the most frequent cause of congestive heart failure.

CAUSATION

The genesis of hypertension is one of the most involved problems that confronts the medical profession today. However, from many facts and contradictions a more clarified vision regarding this important question is gradually being evolved. Increasing evidence is accumulating with regard to the role of heredity in the occurrence of hypertension. The surprisingly frequent appearance of hypertension among several members of a family and its occurrence in successive generations of a family amply testify to hereditary predisposition. This influence appears to exert itself in the phenomenon of vasospasm. In numerous cases constriction of the arteriolar system of the body is at first a temporary effect, only to become permanent with the passage of time and ultimately to eventuate in obliterative arteriolar changes. Occasionally, it is manifest for a variable period of time and then disappears, a phenomenon which explains the somewhat unusual instances of temporary hypertension which have been observed. Persons from so-called hypertensive families, even though four decades may have been safely traversed, are undeniably candidates for hypertension of a later day.

Much has been said regarding the influence of the stresses and strains of modern life which, without a doubt, are becoming more of a reality than ever before. These factors undoubtedly adversely affect candidates for hypertension, particularly in the earlier precipitation of elevated arterial blood pressure.

The nervous constitution of the individual is also an important consideration and here, again, is observed the role of heredity because that composite of human traits known as temperament is certainly an endowment of ancestry. Although the central nervous system is an important factor, its subsidiary autonomic system appears to play an even more important part through its susceptibility to so-called pressor substances resident in the tissues and the blood.

The renal factor, as demonstrated by Goldblatt and others, accounts satisfactorily for a limited group of cases of hypertension. Likewise, the hypertensive phase of eclampsia is well known although not too well understood. Under these circumstances, hypertension may be only a temporary phenomenon, it may be recurrent and in some instances it may remain as a permanent condition. The endocrine system or its units have been incriminated from time to time in the development of hypertension. This belief has been largely constructed from the observation that hypertension at times occurs during the menopause. Too many other conspiring influences exist to make this hypothesis acceptable.

---

*Read before the Section on Medicine at the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 13 and 14, 1942

The primary mechanical factor in hypertension is the construction of the arteriolar bed of the body (vasospasm). As already stated, this phenomenon may be evanescent at first and later become permanent as obliterative changes in the arterioles occur. Thus, with the resulting increase in arterial blood pressure and the increase in peripheral arterial resistance an increased load is imposed on the left ventricle. The myocardium responds to increased work in a manner similar to other muscle, namely by hypertrophy. The heart responds by hypertrophy of the left ventricle.

The heart is capable, within certain limits, of responding to increased load by increased work; the limit of response is what is commonly known as the cardiac reserve. The output of energy of the heart is dependent on the diastolic length of its muscular fibers, and when dilatation occurs under a constant load it does so only because the ventricle is incapable of ejecting as much blood at each beat as is delivered to it. Under these circumstances residual blood accumulates in the left ventricle, and an increased load becomes imposed on the left auricle which in turn increases the pressure within the pulmonary circulation. In this manner the beginning of a vicious cycle is established. The increase of pressure within the pulmonary circulation then is reflected on the right side of the heart, which, when it ultimately dilates, results in the incompetence of the last protective barrier, the tricuspid valve, and engorgement of the systemic venous circulation occurs with the exhibition of the well known syndrome of congestive heart failure.

Other important mechanisms participate in the vicious cycle eventuating in congestive heart failure. These factors frequently escape attention yet their role in this process is worthy of consideration. The primary requisite of a normally functioning heart is the maintenance of adequate respiration of the cardiac muscles. The ability of the heart to meet increased demands in terms of work depends pre-eminently on the ability of the coronary circulation to supply blood and, thereby, oxygen to its musculature. Three essential factors are concerned in this immediate problem: 1. When the heart hypertrophies, its weight may attain a figure three or more times its normal. This tremendous increase in muscular mass is served by essentially the same coronary circulation that was designed fundamentally to nourish the normal organ. Likewise, the frequent coexistence of coronary atherosclerosis, commonly of the obliterative type, further militates against adequate and readily available blood for the impaired myocardium. 2. Failure of the left ventricle (the first stage of hypertensive heart failure) results in pulmonary hypertension which is followed soon by passive congestion of the lungs. This, in turn, diminishes the function of the alveoli, the important junction for absorption of oxygen and release of carbon dioxide. In this manner a second deterring factor from adequate oxygenation becomes operative. 3. The fact must be recalled that under normal conditions as much as two-thirds of the venous coronary blood, from both the left and the right sides of the heart, is drained into the chamber of the right ventricle by way of the thebesian circulation. Thus, under conditions of congestive heart failure when the pressure within the chambers of the right side of the heart is increased as well as the pressure within the venous systemic circulation, the return coronary circulation may become greatly impaired, and impairment inevitably interferes with the adequacy of its arterial component[4].

These are the principal hydrostatic factors concerned in the problem, while additional factors, chiefly dependent on these alterations, occur in the heart, the periphery and in the tissues of the body. The chemical alterations consequent to anoxia constitute a very involved problem and one which merits special consideration.

DIAGNOSIS

The symptoms of hypertensive heart disease depend entirely on the functional adequacy of the heart and on the occurrence of complicating conditions such as obliterative coronary atherosclerosis accompanied by the anginal syndrome or coronary occlusion. In the early stages of the disease varying degrees of dyspnea on accustomed exertion may be the only symptom in evidence. Under certain circumstances, before the appearance of congestive heart failure, sudden and temporary failure of the left ventricle alone gives rise to the syndrome of acute pulmonary edema or so-called cardiac asthma. This syndrome, however, is not limited to hypertensive heart disease. The most common eventuality is congestive heart failure, in many instances accompanied by auricular fibrillation. Death may occur during the first bout of congestive heart failure but more commonly temporary recovery ensues and in a considerable proportion of cases recurrent periods of failure are the prelude to death.

Enlargement of the heart is a universal sign, the left ventricle particularly participating in this process although the right side of the heart ultimately becomes involved, especially by the act of dilatation. The cardiac outline, both by percussion and as visualized by the roentgenogram, reveals predominant enlargement of the left ventricle, the outline extending both to the left and downward. Variable degrees of dilatation of the aortic arch are common. Pulsations in the suprasternal notch may occur, resulting from angulation of the branches of the aorta as they are placed under tension by the dilated aorta. Systolic murmurs, both at the apex and in the aortic region, are frequently audible, in the former situation resulting from relative insufficiency of the mitral valve, and in the latter from concomitant atherosclerosis of the aorta. Pulsus alternans may precede the actual advent of congestive heart failure and is always an ominous sign. Gallop rhythm frequently accompanies congestive heart failure. Auricular fibrillation occurs with remarkable frequency, at times preceding failure and at other times occurring at the time of failure. This arrhythmia may be paroxysmal in character when failure impends, only to become a permanent disorder as the vital resources of the heart become dissipated.

PROGNOSIS

During the last two decades notable progress has been made in the prognostic appraisal of hypertension. In a consideration of prognosis all of the vital components of the body directly subjected to the effects of hypertension and most vulnerable to these effects must be judiciously considered. Thus, attention is particularly focused on the heart, the kidneys, and the brain. The surrender of one or more of these organs usually predicts the course of ultimate dissolution. The direct visualization of small vessels such as is possible by retinoscopy has resulted in the accumulation of much important information permitting cases of hypertension to be assigned to fairly definite groups. The studies of Wagener and Keith were based not only on the retinal findings but also on their correlation with general clinical findings and prognosis.

The studies of these workers, supported by the histopathologic studies of the small vessels in muscles by Kernchan and his co-workers, indicated that the most important dynamic and histologic changes occur in the arterioles, although changes were observed in the arteries also. Keith and Wagener divided cases of hypertension into four groups according to degree of hypertension and retinal change. Their grouping, which remains in use, is as follows: Group 1, comprising the greatest number, includes cases of hypertension with diffuse vascular disease, the condition frequently designated as essential hypertension. In this group the retinal changes are slight, consisting of minimal narrowing or sclerosis of the arterioles. The patients remain remarkably well for long periods of time. Group 2 includes cases of hypertension with diffuse vascular disease in which the blood pressure is consistently higher than in group 1 and in which retinal arteriolar changes are more marked but retinitis is absent. The more progressive character of the disease is apparent in these cases. Group 3 represents cases of hypertension with diffuse vascular disease in which there are marked elevation of blood pressure, evident diffuse vascular changes and functional insufficiency of certain organs, notably the kidneys and brain. Angiospastic retinitis and arteriosclerotic changes of the arterioles occur but edema of the disks is absent. The prognosis in this group is poor. Group 4 comprises cases of hypertension with diffuse vascular disease in which hypertension is severe and the condition serious. The patients fairly generally exhibit restlessness, asthenia, visual impairment, dyspnea under slight provocation and nocturia. Obvious cerebrovascular residua are common. Blood pressure is consistently high and diffuse arteriolar changes are marked. The retinas reveal marked angiospastic and organic narrowing of the arterioles, diffuse retinitis and edema of the disks.. The course is rapidly progressive and inevitably fatal.

Although the deleterious effects of hypertension on the heart are observed to some degree in all the groups of hypertension, they predominantly are in evidence in groups 1 and 2. This incidence is due in a considerable degree to the fact that the patients in these groups are subjected to elevation of blood pressure for much longer periods of time than are those in groups 3 and 4, in which the progressive tendency of the diffuse vascular disease eventuates in death at a much earlier date. When cardiac insufficiency is exhibited as the outstanding feature of the process of hypertension, death from this cause can usually be anticipated although exceptions to this statement at times are observed. Furthermore, serious, and often fatal, coronary disease occurs most frequently among patients in groups 1 and 2.

When the concept is accepted that hypertension is associated with diffuse changes in the vascular system, primarily and predominantly in the arterioles but ultimately involving the arteries also, it becomes readily apparent that various vital organs become concerned in the general process. Resistance to the progressive ravages of the disease differs among individuals so that one person dies from heat failure, another succumbs to renal insufficiency, while still another dies as the result of a cerebrovascular lesion. In some instances more than one of these important bodily components, the heart, the kidneys and the brain, participate in the immediate process of death.

MANAGEMENT AND TREATMENT

The management and treatment of the heart in hypertension should begin with the recognition of the hypertension. An individualized regimen is in order, the limitations imposed to meet the protective needs of the patient. In view of the fact that the majority of persons afflicted with hypertension are of the energetic, dynamic, and tense type, more than the simple restriction of physical activities is indicated. The physician must concern himself also in helping the patient to adopt a different philosophy of life, one protective in every sense of the word, whereby intensities are lessened and the art of relaxation is acquired. The achievement of this objective in many instances retards the progressive tendency of the disease and may postpone greatly or even avert serious eventualities. Although the broad scope of the problem of treatment and management of hypertension per se is clearly beyond the limits of this discussion, it should be stated that the attempt must always be made to prevent serious cardiac participation by measures directed to the control of the individual patient.

When cardiac failure threatens, a period of complete rest in bed is urgent. The cautious administration of digitalis is often in order, particularly when auricular fibrillation is present. The reduction of weight of the obese patient is important and frequently, when successfully achieved, results not only in improvement of the status of the heart but also in salutary reduction in levels of blood pressure.

The advent of congestive heart failure always creates a serious situation which demands prompt and continuous treatment. Again complete rest in bed without bathroom privileges must be promptly instituted. Digitalis administered to meet the requirements of the individual patient is indicated but its exhibition must be well ordered and cautious. As many patients who have congestive heart failure are among the older age groups it must be remembered that persons of these ages are frequently intolerant of digitalis when administered in the conventional manner, so that constant alertness in detecting early evidences of intolerance must be exercised. I call attention particularly to the toxic cerebral symptoms caused by digitalis.

The use of the mercurial diuretics, administered preferably by the intravenous method, is usually necessary and frequently brings about prompt relief of symptoms by the rapid mobilization and excretion of edema fluid. The functional status of the kidneys must be determined before administration of these drugs. In event of poor diuretic response to the mercurial agents, good results frequently accrue through the concomitant administration of an acid salt such as potassium chloride or ammonium nitrate. The intake of fluid must be reasonably restricted.

Oxygen therapy is desirable under conditions of anoxia as indicated by dyspnea, cyanosis and so forth. This treatment is accomplished satisfactorily by the use of the oxygen tent but more economically with the B.L.B. mask. Oxygen concentrations must be determined by the indications and response in the individual case.

Venesection is at times a lifesaving procedure, which finds its greatest indication when venous pressure has become considerably elevated. Dramatic results are at times forthcoming during episodes of acute left ventricular failure when the syndrome of pulmonary edema occurs.

The intravenous injection of hypertonic dextrose solution is at times desirable, particularly when retention of nitrogen occurs. Three to five hundred cubic centimeters of a 15 to 25 per cent solution is introduced very slowly, an hour to an hour and a half being consumed in administration of the quantities stated. When Cheyne-Stokes breathing is present the addition of 10 c.c. of aminophylline is frequently helpful.

Rest and sleep are important considerations in the improvement of the patient. Morphine sulfate in doses of 1/6 to 1/4 grain (0.01 to 0.0164 gm.) may be necessary during the first few days of the acute illness but sedative agents such as the barbiturates and allied drugs should be substituted as soon as possible. At times, when the latter preparations fail to give satisfactory results, the cautious use of the tincture of opium in individualized dosage does much to establish rest and relaxation.

When cardiac function has been restored under conditions of complete rest, a gradual and well planned program of rehabilitation is imperative. It is necessary that the patient permanently adhere to a regimen of restrictions and frequent periods of rest in order to maintain the necessary cardiac reserve to permit at least reasonable functional efficiency. Any compromise in this regard is fraught with peril, inevitably resulting in recurrent congestive heart failure and perhaps death. A scheme of more or less continuous administration of digitalis is frequently necessary and at times the repeated use of the mercurial diuretics is advisable. Thus, it is apparent that the patient should remain under medical supervision so that any additional relinquishment of cardiac reserve can be promptly recognized and the necessary measures instituted to prevent the advent of complete failure.

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"There was a dream . . . that men could one day speak the thoughts of their own choosing. There was a hope that men could one day stroll through streets at evening, unafraid. There was a prayer, that each could speak to his own God—in his own church. That dream, that hope, that prayer became — America! Great strength, youthful heart, vast enterprise, hard work, made it so. Now that same America is the dream . . . the hope . . . the prayer of the world. Our freedom—its dream. Our strength —its hope. Our swift race against time—its prayer! We must not fail the world now. We must not fail to share our freedom with it afterwards . . . "

—From speech of acceptance by Carelton H. Palmer, chairman of the E. R. Squibb and Son at the presentation of the coveted Army-Navy "E" Pennant to E. R. Squibb.

Surgical Treatment of Detachment of the Retina*

W. R. BUFFINGTON, M.D.
NEW ORLEANS, LA.

SIMPLE DETACHMENT of the retina is a line cleavage formed between the pigment epithelial layer of the retina and the other retinal layers. The intervening space is filled with fluid.

Opinions differ as to the cause of simple detachment. One or more of the following conditions is probably the predisposing cause in most cases:

1.) when the intraocular pressure in front of the retina falls below normal
2.) when pressure behind the retina is increased
3.) when adhesion between the vitreous and retina pulls on it causing detachment

Anatomically, the retina is attached to the optic disc and at the ora serrata. The intervening part is in contact with the choroid, but not attached to it. Primary degeneration of the vitreous, perforation of the globe, perforating ulcers, subretinal hemorrhages, by lowering intraocular tension, predispose to retinal detachment.

DIRECT CAUSES OF RETINAL DETACHMENT:

1. Concussion of the eyeball, subretinal hemorrhage, perforating injuries, perforation behind the cornea—notably seen as a remote complication after the removal of foreign bodies by the posterior route. (I have seen five cases).

2. In the progressive myopia, the non-elastic retina in contact with the elastic sclera, and the choroid, is put on increased tension due to the enlargement of the globe. The elastic sclera stretches as the vitreous becomes more liquid, culminating in detachment.

3. Inflammation—severe, acute and chronic uveitis, are often responsible for detachment. Retinitis, by producing exudates and changes in the vitreous, is a potent cause. All intraocular inflammation and hemorrhages which leave behind organized tissue, show a high percentage of detachment. Prognosis, with any treatment in such cases is practically nil.

4. Constitutional Diseases:
   a. Toxemia of pregnancy. Schiotz saw seven in 6800 cases. Prognosis good.
   b. Late stages of nephritis.

5. The retina is pushed forward often in a bulbous-like protrusion in the so-called detachment of the choroid, which in some cases follows cataract extraction and trephine operations for glaucoma. The prognosis in these cases is favorable. One case only have I seen follow a trephine operation—a permanent detachment resulted.

6. Tumors of the choroid are a frequent cause for detachment. It is obvious that such cases of detachement are not amenable to surgical treatment, and the removal of the eyeball is necessary due to the fact that these tumors in nearly all instances are melanosarcomas.

EXHIBIT:

In discussing traumatism, the most frequent direct cause of retinal detachment, this statement by Arrugo is worth repeating, "In normal eyes, traumatism must be severe to produce retinal detachment. In predisposed eyes, a very slight trauma may produce this condition." In normal eyes, it is unusual for detachments to follow even severe blows, unless a perforation of the globe or a rupture of the retina takes place. Direct trauma to or about the eye is common to football players, pugilists and wrestlers. Detachment is relatively uncommon among them. The reason for this is that they are young and healthy. They have not yet had intraocular degeneration and other changes which take place as age creeps on. In the predisposed eye, a slight blow over the eyes or on the head, bumping into a door, even rubbing the eyes with the fingers may be responsible for a detachment. In these eyes time between the trauma and the detachment may be several days or weeks. In some instances it is delayed several months, according to the best observers.

This brings up the question: What are predisposed eyes?

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-fourth annual session of the Mississippi State Medical Association, Biloxi, Miss., May 13-15.

1. Myopic changes account for them 50 to 60%. Myopia is on the increase, due to intensive requirements of modern education. It is a disease that should not be looked upon as merely an error in refraction to be corrected with glasses. Vocational guidance in malignant myopia, or progressive nearsightedness, should be given serious consideration in early life among those children affected. In addition to being a most important predisposing factor in detachment of the retina, myopia is often responsible for serious impairment of vision in later life.

2. Senile changes often bring about a thinning of the retina due to cystic degeneration, and peripheral chorio-retinal atrophy. If one searches carefully through the dilated pupil of people past 60, this senile peripheral atrophy can be found in most cases.

According to Stallard's figures:

Onset of detachment: sudden, 52%, insidious, 42%, traumatic history 16%, previous eye trouble, 24%.

Refractive errors: myopia, 42%, vitreous opacities, 47%, (my experience shows a higher incidence).

Age incidence: More frequent between 40 and 70 years old. Average 60 years.

SUBJECTIVE SYMPTOMS OF DETACHMENT: light flashes, waving curtains, reduced light minimum, contraction of the visual field. On the other hand, in many cases the disturbance is not noticed by the patient until the macula or central retina has become involved.

TEARS:

The importance of recognizing and locating the rupture in the detachment of the retina known as tears, rents, or disinsertions, and their closure by modern surgical means, are the most important factors in the successful treatment of detachment of the retina. Tears may be secondary, but once formed they create a vicious circle. So, their closure is vital to success. Tears, rents or disinsertions are found in at least 75% of all these cases of spontaneous or idiopathic detachments. (The use of the word spontaneous or idiopathic is applied to these cases of detachment in which no other cause can be found, and these are the ones which are most amenable to surgical treatment.) These tears or rents can exist and yet not be visible, being too far in the periphery of the fundus. In order, therefore, to find them it requires time, patience and a careful examination through a widely dilated pupil with an excellent opthalmoscopic illumination. Tears are often multiple. In some instances these tears or ruptures or disinsertions are so extensive that treatment could be of no value.

LOCALIZATION OF TEARS:

You can readily understand that since the retinal tears are located on the inside, and the surgical treatment is applied to the outside of the globe, it becomes vitally important to locate the tears in order to treat them through the scleral surface. To miss the tears would be to defeat the purpose of the treatment.

The history is most important in determining the location of the tear and beginning detachment. If temporal and above, the patient first notices flashing of light, flickering in the lower nasal field. If his observation is accurately made, one begins to form a pretty good idea of where the tear is located. As the detachment advances the field contracts. Some observers have thought in cases of trauma the tear is often opposite the site of the blow. A history of a moderately slow loss of the upper half of the field is almost sure to have a disinsertion below temporally. Exact localization of the tear is not vital to successful surgical treatment of retinal detachment. One must select a practical way to serve his purpose best. Most methods published recently in the literature, though accurate, are too complicated for practical use; others are so entwined with higher mathematics that the average doctor is lost in a maize when he attempts the solution of the problem.

The following anatomical measurements must be constantly kept in mind in rents, tears and insertions:

Center of cornea to the limbus	5 to 6 mm.
Limbus to ora serrata	7 to 9 mm.
Ora serrata to the equator	6 to 8 mm.
Equator to the macula	18 to 20 mm.

Ridly gives practical data in the following statement: "Tendency to underestimate distance between the hole and the periphery." His rule:

1. Count 10 mm. from limbus to retinal periphery at the ora serrata.

2. Estimate each disc diameter 2 mm. instead of 1.

3. A diathermy application 12 mm. from limbus is just visible in its entirety, at the periphery. One 22 mm. from the limbus is as

far back as the tears are seen, almost to the macula. Between these two points good judgment must be exercised.

The following has been my procedure in a practical localization:

1. Chart the fundus on a flat surface.
2. Intraocular measurements are made in disc diameters; the scleral surface in mm.
3. In transposing, each disc diameter equals 1½ to 2 mm.
4. The watch dial is the guide for the circumference location of the meridian of the tear.

TREATMENT:

The recent advances in the treatment of detachment of the retina represent a distinct advance in medical science. How helpless oculists of the past felt when placed face to face with this condition!

The basic treatment has been to co-apt the detached retina and choroid by drainage of the subretinal fluid. The choroid compared to other vascular membranes of the body has very feeble absorptive powers. To increase bodily absorptive powers, the older method of treatment, with which you are familiar, was to give diuretics and diaphoretics: hot air, baths, purgatives, pilocarpin, and injections of hypertonic saline solution. The cures were few and far between.

A careful study of each particular case plays an important role to guide us in the course of treatment to follow. The etiology, a careful study of the vitreous, retina and choroid are essential. Gross vitreous changes; intraocular fibrous bands resulting from inflammation and hemorrhages; active retinitis and choroiditis; patients with giant tears and intraocular hypertension are poor risks, and are best treated along conservative lines. Because of the strenuous pre-operative and post-operative requirements essential to successful treatment, feeble old people are manifestly poor risks.

Absolute rest in bed is the first essential in treatment. The patient's head is lowered or elevated, depending on whether the detachment is above or below. Binocular bandages, and peep-hole goggles are used—the binocular bandages for two weeks after the operation, then the peep-hole glasses worn. Experience has taught that the ocular movements will defeat any treatment, no matter how perfect.

My best results have been obtained by the following procedure:

1. Make a careful study of history as to cause.
2. Locate in the field of vision the first subjective symptoms of flickering or field defects.
3. Make a careful study of the detachment.
4. Localize the tear, tears, or disinsertions.
5. Immobilize and bandage both eyes to study the effect on advancement or recession of the detachment, and to localize the tear better.
6. Prepare the patient as for a cataract extraction or any other intraocular surgery.
7. The time element between the detachment and the operation is not as important as it was once thought. Some very good results have been obtained after six months or longer. However prompt treatment in the largest percentage of cases gives the best results.
8. Provide careful fixation of the patient; localization of the tear, if possible; and a study of the extent and type of the detachment.
9. After the conjunctiva and one or more muscles are divided, and the markings made for location on the scleral surface, 20 to 30 fine, short, sharp, micropins are introduced through the sclera with a diathermic current of 30 to 40 milliamperes. After these have been introduced, more inaccessible areas marked for treatment are punctured with the Lacerrere instrument with a current of 50 to 60 milliamps. All pins are then removed quickly — almost simultaneously. The failure of the subretinal fluid to be evacuated often defeats the purpose of the operation. It is vital for the retina to come in contact with the diathermically tested choroid. A point in my experience: The subretinal fluid drains most successfully from the multiple micropin punctures when the pins are removed almost simultaneously. This is certainly true if all the pins are kept intact until the operation is completed. I think the better drainage is due to uniform hydrostatic escape of the subretinal fluid causing the detachment.

In treating a disinsertion at the ora serrata, two rows of micropins are introduced behind the defect. I try to make distance between the pins about 3 mm. In tears located some distance from the area, one row of pins is inserted in front of and a second row behind it. The treatment is not confined to the area of the tear, but the punctures are so made as to complete the whole detachment in a given quadrant.

The micropins must be short and fine in order not to damage the retina. I have had most of my pins so shortened that even in flat detachments they cannot penetrate deep enough to touch the retina.

POSTOPERATIVE COMPLICATIONS:

1. Panophthalmitis has been seen. I had one.

2. Vitreous hemorrhages are a serious complication, and may defeat an otherwise successful operation. Often seen the day after the operation.

3. Marked chemosis is regarded by some as offering an unfavorable prognosis, indicating that the exudation of fluid externally is nearly always associated with transudation of fluid beneath the retina; or it may occur on the third or fourth day when excessive diathermy has been used.

4. Some have reported thrombosis of retinal veins defeat the purpose of the operation.

What the Pharmacist Means to the Physician*

LEW WALLACE, Secretary
Mississippi State Board of Pharmacy
LAUREL, MISS.

THERE WAS A time in the history of medicine buying in Mississippi when the public had a great deal more respect for a physician's prescription and the practice of pharmacy than it has today, and little interest in ready prepared preparations.

Today, the people will try one medicine and another and suggest that their neighbors do likewise, never taking into consideration the fact that the drug used may be harmful. While this situation is due largely to the impulse of the average layman to embark upon a heroic, though often disastrous, effort to help his neighbor, still it has its foundation in the fact that the men responsible for medicine and pharmacy have not fulfilled their obligation to the profession and the public.

If medicine had been properly upheld in the minds of the people and the secrets that rightfully belong to medicine had been preserved, the mystery that once surrounded chemicals and galenical preparations would not have disappeared and the public would not be willing to accept without thought of consequence even the least dangerous compounds.

The pharmacist can package a prescription in a nice looking bottle with a lithographed label and enclose it in a container as professional in appearance as your microscope. This container, in the form of a nice looking carton could carry the following imprint: "Your prescription. This medicine has been designed especially for you by your doctor. Its formula is based upon his diagnosis of your individual needs. Follow his directions faithfully to obtain full benefit."

This could be an effort on the part of the pharmacists to help break down the public habit of thinking of medicine as a set thing, to make the patient think more in terms of *my* medicine. Such care in filling a prescription could not help but impress the thought that special attention to his case had been rendered by the physician.

The desire to take medicine is one thing that clearly distinguishes human beings from animals.

Unless we impress on the public that medicine should be prescribed by the physician and dispensed by the pharmacist, the average person will try self-medication first. It is better for the pharmacist to fill prescriptions than to sell ready-made preparations by reiterating the well-worn phrases of the usual advertisement.

People are definitely medicine-minded. We know if we can sell them on the idea of individualized medicine they will have to go to you to get specifications in the form of a prescription and they will have to come to us to get these specifications compounded into medicine.

Time, often the physician's friend, can also be his enemy by impairing the efficacy of drugs and medicaments.

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*Read before the Section on Medicine at the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 13 and 14, 1942

As a special safeguard for you and your patients, pharmacists should take extraordinary precautions to maintain only *freshest* stocks. No item whatsoever should be dispensed which had lingered unused on the shelf one moment longer than prescribed safety permits.

This rigid stock should and does apply especially to the dispensing of such vital physicians' needs as serums, vaccines and biologicals. In these, as in all other stocks you may rely on the pharmacist to deliver only *freshest* stock . . . of the exact potency and efficacy indicated on the label . . . *always*.

Recent Federal drug regulations have been worth much to the physician and will mean much more in the days to come, because of restrictions they rightfully place on the sale of many drugs and chemicals.

With a professional promotional program between the physician and the pharmacist and these regulations, you hold in the palm of your hand the possibility of handling the medication of your patients as your diagnoses show best. With the pharmacist backing up these regulations to the best of his ability, it means that many prescriptions *cannot* be refilled legally without your consent.

With your sincere coöperation, the government regulations, and our willingness to cater to both, you cannot fail to see results that you probably have dreamed of in the past.

Self medication snatches many dollars each year from your income. You and I cannot eliminate patent medicines, but we can combine our resources, add sincerity, and show the public that the patent medicine man, hundreds of miles away, cannot diagnose and prepare medicines for sickness that has not come into being.

Many people who should know better, seek short cuts to health. The number who ask a pharmacist to "recommend something" for a stated symptom, when their first need is medical advice, is appalling.

To all such the pharmacist's emphatic recommendation should be "see your doctor before you see us!"

At no time should we underestimate the serious hazards of such unethical meddling as "prescribing at the counter." For the mutual benefit of yourself and the public health, we should pledge a sharp counter-attack on "counter diagnosis."

"What's it going to cost"? The uncertainty of the cost and the vision of vacation money, a new suit or trading automobiles being eaten into by doctor bills, prompts many to seek a substitute for professional supervision in sickness. Thus, they become an easy prey to the roseate promises of medicine ads, or the word of mouth advertising of some proprietary that had previously been prescribed by a physician, and thus had on it the applied approval of the medical profession.

This is the human problem that you and I have to face in order to sell the public on the idea of individual medicine, prepared only after you have made your examination and determined what medication is best suited.

"Who kill's Cock Robin?"

It's not altogether patent medicines that are responsible for our ills because the so-termed "reputable pharmaceutical manufacturer" with his specialities has elbowed into the racket, with a fancy coined name, a different color and taste. Often these specialties are medicinally the same as some U. S. P. and N. F. preparation, except in cost and that is generally rated up about two hundred per cent.

A combined name on a prescription for a specialty is usually a passport for the original patient to broadcast to the neighborhood that Doctor So and So uses it. Many times the prescription is torn up, the preparation called for by name and the physician finding no prescription label on container feels the pharmacist has taken advantage of him.

Yes, it happens among your patients and among our customers.

For many years the pharmacists have recognized the need for some means to conceal the secrets of medicine and preserve the mystery that rightfully belongs to a prescription.

About 1937, this need precipitated a program that was launched by the State Board of Pharmacy to create interest among the physicians and pharmacists in the U. S. P. and N. F. The idea was to call attention to the protection afforded prescription writing by the nomenclature of these books as well as bring to the physician and pharmacist the easy manner in which the identity of drugs could be concealed. For example: charcoal can be mixed with quinine, phenolphthalein with milk of magnesia, etc., to keep the patient from knowing what he is getting.

Charles E. Wilson, Wilson Drug Company, Corinth, Mississippi, was elected to direct this program and he did a splendid job. The plan included a bulletin each month to physicians pointing out the virtues of the U. S. P. and N. F. and giving timely hints on how they might disguise their prescriptions. A separate bulletin was sent to the pharmacists to keep before them ways and means in which they could coöperate with the physician.

In the first year of this work, three hundred physicians answered questionnaires asking that the bulletin service be continued. The second year brought six hundred requests from physicians and at the end of the third year over a thousand Mississippi physicians said that they would like to see the work continued. I hope you will think these points through and should you want the bulletin service of the U. S. P. and N. F. program resumed write to me, P. O. Box 675, Laurel, Mississippi, and tell me you favor closer coöperation between the physician and the pharmacist, and would like to have these bulletins.

I hope that our U. S. P and N. F. program holds as many pleasant recollections for you as it does for me. Looking back I am reminded when I had my first opportunity to coöperate with the profession of medicine.

In this turbulent old world it's easy to overlook the little courtesies that make life more pleasant. So I want to take time here to tell you that your friendship and good will mean more to the pharmacist than your name on your door or your signature on a prescription.

Just as friendship is fostered by confidence and respect, so we hope to see the relations between our two professions grow on an equally sound foundation. We'll do our part by turning out the best prescriptions we know how to compound.

WHICH IS ME?"

Within my earthly temple there's a crowd:
There's one of us that's humble, one that's proud,
There's one that's broken-hearted for his sins,
And one that unrepentant sits and grins,
There's one that loves his neighbor as himself,
And one that cares for naught but fame and pelf.
From much perplexing care I would be free
If I could once determine which is me.

—Author unknown.

Low Back and Sciatic Pain

THOMAS H. BLAKE, M.D.
JACKSON, MISS.

For a prolonged period of time cases with low backache have been a big problem to each practitioner, and it is hoped that this paper will help in diagnosing some cases of low backache.

When a woman comes in complaining of pain in the lower back, the first thing that each of us looks for is an intra-pelvic abnormality. In the case of a man the prostate has been thought of as the chief offender. When studies of these have been exhausted, foci are sought as causing the disorder. In many instances after the pelvis has been examined, the prostate examined and foci eliminated, the low backache is still present. Finally, as a last resort the spine is examined and in a fairly high percentage of cases, this is the background for the complaint. Many patients will come in complaining of low backache and some of these will have an associated pain of sciatic distribution. In a fair percentage of cases the patient can give a definite history of injury that can be associated with the disorder. However, many patients give no specific injury whatsoever. However, if the history is gone into carefully, some previous injury can be found that may be the background. It may either be an acute injury of some severity, or it may be repeated small injuries, or it may even be some abnormality that developed following injury in childhood.

The complaint is usually that of a backache at about the level of the belt. In many instances there will be pain in the gluteal region, the hip, lateral thigh, lateral leg or calf, back of the knee and in some instances, involving the foot. There can be various combinations of this. There may be constant backache or this may be intermittent. There may be constant pain of sciatic distribution or this may be intermittent. There may be the combination of constant bachache and constant sciatic pain, or intermittent backache with associated intermittent sciatic pain. There are cases in which walking gives relief. However, there are others whom only rest will give relief. Many patients have a rather constant and fixed posture to get comfort, such as lying in the bed on the side with the hips flexed. In most instances, activity aggravates the condition and a rather characteristic statement is that coughing and sneezing exaggerates or reproduces the pain in the back or in the lower extremity. Occasionally, it will be found that the pain is in both lower extremities rather than one, or it may be in one and then the other lower extremity.

The symptom complex is caused by one of two things, a protrusion of a disc which composes the pad between the vertebrae, or it may be a thickening of the lining ligament which lines the opening in the vertebrae through which the spinal cord and its component parts pass. A very high percentage of the cases of nerve root pressure are found at the lower part of the lumbar spine, between the fourth and fifth lumbar vertebra and between the fifth vertebra and the sacrum. Some authors state that more than ninety-five per cent of the cases having symptoms from protruded discs are found at this level. Other authorities give a much lower figure. However, it is definite that the majority of the cases are found in this region. The heavy fibrous collar that fits around the intervertebral pad may for some cause become weakened, either by trauma or through some congenital defect and as time passes, the increased pressure by injury on the nucleus pulposus will cause a protrusion through the annulus fibrosus and allow a herniation of the intervertebral disc to push out causing a prominent or small elevation opposite the intervertebral disc. This protrusion is backward from the body of the vertebra and it impinges the nerve roots against the bony ring of the vertebra producing pain in that root or roots against which this pressure is applied. Occasionally a simple hypertrophy of the ligamentum flavum will produce the same symptoms by pressure from its overgrowth. The cases in which the pain is intermittent are described as being those in which the pressure is produced by transient edema or perhaps there are some cases in which the pressure has dissected the annulus fibrosus sufficiently that the disc material can protrude into the sac-like area, giving pressure and the symptoms that go with it, and then in turn this material may slip back into its normal bed between the vertebrae relieving the symptoms.

Physical findings in these patients usually reveal a patient who walks with a rather guarded gait and standing, with a lumbar scoliosis away from the side of the sciatic pain. However, the scoliosis may vary to the involved side. Usually on lying down the scoliosis disappears. However, this is not always true. There is occasionally soreness to deep pressure over the lumbo-sacral region and along the course of the sciatic nerve to the back of the knee. With the patient lying on the abdomen, the knee can be flexed and the tendo achilles reflex will be absent or diminished as compared to the uninvolved side. With the patient lying on the back, stiff leg raising will usually be very painful on the involved side. However, with the knee flexed there is usually little or no pain caused by flexing the hip. Another test that is beneficial is stiff leg raising followed by forceful dorsiflexion of the foot. This frequently causes much discomfort and is a helpful sign. Not all the findings are present in all the cases, and it takes a combination of the various findings to make a positive diagnosis. If the complaint is of long duration and many of these cases are, there may be slight atrophy of the affected side, and in some instances if the patient is told to walk on the toes, it will be found that there is some slight weakness of the calf of the affected side as compared to that of the unaffected as shown by slight weakness or instability in walking on the toe of the involved side. Sensation may be impaired or increased over the dermatome of the involved nerve root. There may be numbness or the sensation of prickling over the dorsum of the foot, side of the foot or heel region, or occasionally on the side of the leg.

X-rays, both anteroposterior and lateral views, should always be taken of the lower lumbar spine. These are beneficial in ruling out definite vertebral disease, erosions and neoplasms, also such defects as spondylolisthesis. It will occasionally be found that there is a definite narrowing of the interspace between the two vertebrae at the level of the involved area. This is quite helpful in locating the exact level of the nerve root pressure. Lumbar puncture is done to see if there is any blocking of the flow of spinal fluid. A protrusion of sufficient size to block the spinal fluid is exceedingly rare, and if there is a block in the spinal fluid circulation, one would suspect a neoplasm rather than a protruded disc. The spinal fluid protein is elevated in fifty per cent of the cases of protruded intervertebral discs. However, this is a helpful sign rather than a diagnostic one. Several years ago it was customary to inject into the spinal canal at the time of lumbar puncture some radiopaque substance to outline the shape of the lower spinal canal when x-ray pictures were taken. This has been abandoned in most clinics as there are some very definite irritating properties in practically all of the preparations used for this purpose and unless operation is to follow, it is impossible to remove this material, and even at operation all of it cannot be withdrawn. Its assistance in making a diagnosis is not sufficiently helpful to make it worth while for this to be a routine procedure. Air is injected as a contrast medium in some clinics, but it also is not completely diagnostic, but is an additional help. Accurate pictures and accurate interpretation are difficult, so that the diagnosis of nerve root pressure is finally made from the history and the physical findings.

The treatment in doubtful cases should always be conservative, consisting of prolonged rest in bed, minimizing activity. It is my custom to place a patient on a hard surface bed prepared by removing the mattress, placing boards on top of the springs from one end of the bed to the other, and then placing a cotton mattress on top of this. This gives a non-sagging surface well padded which stabilizes the spine sufficiently well to minimize the pressure within the spine, and in some instances allows the patient complete relief. Where pain is sufficiently constant, aggravating and handicapping, surgical treatment is the one choice. This consists of making a low mid line incision over the lumbo-sacral region, exposing the interspace between the fourth and fifth lumbar vertebrae and between the fifth and the sacrum. The muscles are elevated by subperiosteal elevation and the lamina exposed. The ligamentum flavum is then dissected free and the dura exposed. In some instances it is necessary to nibble out a small amount of bone of the lamina to give added visibility and accessibility for examination of the nerve roots and even in some instances it is necessary to do a hemilaminectomy. The dura and the nerve roots are inspected for the pressure point. Occasionally there is more than one protrusion. However, this is unusual also. The posterior ligament is then incised and the protruding material teased from this opening and the interspace curetted to remove any additional material which may have a tendency to protrude. Bleeding is carefully controlled and then the wound is closed in layers with drain which is removed in twenty-four to thirty-six hours. The difficulty of this operation is the controlling of the intraspinal bleeding which can lead to very serious complications. These cases usually require a week to ten days' hospitalization, and they can then return home for their convalescence.

Reports throughout the country on the success of this procedure vary from eighty-five to ninety-eight per cent of complete relief. However, there is some tendency toward recurrence of this defect, but this is sufficiently small to be almost negligible. However, the patient should be warned of this. The relief obtained is almost instantaneous, and is a very dramatic affair from the patient's standpoint as the individual usually goes on to the operating table in much pain and comes out of the operating room pain free except for the postoperative incision. After a reasonable period of time the patient can return to his or her normal activities with comfort and freedom.

SUMMARY

There has been added to our list of causes for low backache and sciatic pain another definite clinical entity consisting of intraspinal pressure on the nerve roots. This is sufficiently characteristic that it can usually be diagnosed from history and physical examination and the level of the abnormality carefully outlined. Conservative treatment consisting of rest is usually carried out in these cases, but the majority of them are only relieved with surgical removal of the material causing the pressure within the spine. The operation is exceedingly delicate, but when properly done gives very gratifying results.

We still see cases of scabies; the female of the species is the most common disturbing agent. It is a vexatious disorder and its better known name itch is no misnomer. One should practice the Rev. John Wesley's slogan that cleanliness is nigh to godliness. Disinfection and sulphur are in order here.

Mental Hygiene and the Medical Profession*

CLYDE M. SPECK, M.D., F.A.C.S.
WHITFIELD, MISS.

IN PRESENTING this paper to you, I would like to stress the need in Mississippi for a mental hygiene program. We can well realize the need for a program to prevent mental disease, when we stop to consider that there are more patients occupying beds in mental hospitals than there are patients in all other types of hospitals; that there are more mental patients than there are students in all universities and colleges in this country. These figures do not include the mild cases, the criminals, sex problems, and that great group of neurotics who visit physician after physician.

It is estimated that one out of every twenty persons born in the United States will spend years during his life in a mental hospital. It is further estimated that between five and six per cent of the population are sufficiently or so seriously afflicted with nervous and mental disorders as to cause their admission to mental hospitals.

The United States spends over $230,000,000 each year for maintenance of mental institutions, and many times this amount for investments in buildings and equipment for these institutions. No one can adequately estimate the economic loss due to the fact that these patients are not only unable to earn salaries, but they have become an expense to the state and to their families. The U. S. Government alone has spent through the Veterans Facility $1,750,000,000 for compensations, care and hospitalizations of veterans of World War I.

Mississippi admitted 1960 patients to Whitfield last year and treated 5379 patients. Each year there is a gradual increase in the number of patients admitted. The hospital which was new and adequate only a few years ago has already become so badly overcrowded that there is now a question of using the basements of these buildings and of having to parole patients before they are really able to adjust well at home. With the present war and uncertain conditions, we have noticed a rather marked increase in admissions during the past year. We feel that if these diseases are to be prevented, they should be diagnosed early and treated before mental deterioration develops. To do this, we need the coöperation of the general practitioner and the improved teaching of these subjects in our medical schools. The general practitioners are too occupied with the disease of frank or demonstrable pathology and are too busy to study the psychic qualities of subjective symptomatology. Scientific medicine has neglected the psychic and social factors involved, and no doubt this is the cause for the rapid spread of various cults and the different kinds of "practices" and "paths."

Modern medicine has failed to see the patient as a whole, his relation to his environment and his social status. Today there appears to be a widespread existence of the notion of dualism; namely, the idea that there is a clear distinction between the body and what is generally thought of as the mind—that there is one group of diseases affecting the body and another group affecting the mind. The saddest picture today is to witness the failure of medical science to impart the knowledge that no distinct separation can be drawn between mind and body—between physical and nervous disease. We know that a number of physical conditions produce nervous disease, and that at least one-fourth of our so-called physical complaints which we treat from day to day are physical interpretations of nervous reactions.

It is realized that mental diseases are medical problems, and we know that only a few medical schools are equipped to teach mental hygiene, and because of this lack of training, most physicians excuse themselves for not attempting treatment when a case comes to their attention. Almost invariably the family physician is first appealed to when symptoms of a nervous disease, or a conduct problem, or sex problem presents itself. All too frequently he is unable to analyze the problem and fails to advise the family regarding the question of treatment and prognosis, until the patient has developed a definite psychosis.

Although the general practitioner may exclude from his interests the definite cases of so-called insanity, he is often required to treat cases known in medical terminology as psychoneurosis, and known to the lay public as nervousness. I refer to such conditions as hysteria, neurasthenia, states of fear, doubts, anxiety, and those neuroses which are characterized by fixation of attention of the patient upon various organs and functions of the body. These cases are all too frequent for the general practitioner to ignore. The patient does not know these symptoms as psychoses and frequently the physician fails to realize that the trouble is not in the organs of which the patient complains, but that it is a functional symptom based upon emotional imbalance. Neurasthenics and psychasthenics, hysteria and other neuroses are the cause of more human suffering than tuberculosis or cancer. Often neurotics go from one physician to another having a fixation of emotional reaction upon whatever organ is suggested by the latest physician. They then either seek some form of cult, or are admitted to a mental hospital as definite psychotic cases—in spite of the fact that every physician realizes that emotional factors produce bodily changes.

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*Read before the Central Medical Society, Jackson, Miss., August 31, 1942.

Many of us who are surgeons have removed goiters when insufficient study has been made as to the emotional conflicts causing the thyroid reaction, and many of us have seen cases operated upon, hoping they would be relieved of a fixed idea involving a certain organ. Many of our quacks are much better prepared from a phychological standpoint to treat these cases than the physician, who, due to lack of training, accepts only physical disease as his field of battle.

This lack of understanding of the nature of mental and nervous diseases on the part of the medical profession is comparatively recent. History shows that until fifty or sixty years ago, mental disease was quite often discussed at medical meetings, and the family physician had a very good understanding of the treatment and handling of neurotic problems.

The New York State Medical Association was responsible for the state hospital in that state. In Connecticut, the first state hospital was financed by a grant from the state medical association. But with the birth of scientific medicine and the new methods of examination, and where no pathology could be demonstrated, mental medicine lost its interest. It has only been within the past few years that medical schools have realized that mental and nervous cases make up the greatest percentage of all patients seen in practice, and that the present physician, with his training, is unable to cope with them.

For example: A patient has marked fear. As long as that fear has a hold on him, it affects every phase of his life; it profoundly affects all his relations, his home, his happiness, his family and social life. It might even cause his death by suicide, and he would be just as dead as if he had died of a physical disease. Psychiatry regards this fear as a medical problem, although we are unable to demonstrate any pathology. The condition is studied from a psychopathological viewpoint, and means for the control of this fear is developed.

Medicine must consider the patient as a whole. A well body with an impaired mind is useless, and many impaired minds produce impaired bodily functions. On the other hand, many times an impaired body produces an impaired mind. Again many mental conditions are based on inferiority conflicts caused by physical handicaps. All too frequently the physician fails to realize that this is a disease entity, and he advises the patient to "forget it," or "just quit thinking about it," and lets it go at that. If this same patient consulted the physician with a lump in the breast, the physician would recognize immediately that this was a diagnostic problem, and he would remove the mass and refer it to the pathologist for examination. If the patient came to him with a pain in the right side, he would immediately call for a diagnostic conference and would begin various laboratory tests and various physical examinations, etc. If this same case came to us with many and varied subjective symptoms, with no demonstrable signs or pathology, it would be our duty to perform the same physical tests, plus the psychic elements connected with the case.

The physician has only to recall the number of heart and hypertension cases that are caused indirectly by mental worry and maladjustment, to realize that mind is inseparable from body, and that mind and body must be considered as one.

From the above we realize that if mental and nervous cases are to be treated and prevented medical schools must give more training in mental hygiene. A number of schools are doing this, but they are only a small percentage of the whole. The physicians will have to recognize mental and nervous diseases as such or at least recognize the condition sufficiently to call in consultation in order to treat the cases completely. They will have to realize that mind and body are dependent one upon the other, and that mental disease is just as definite as physical disease.

We are aware of the fact that at least one-fourth of all cases seen are essentially psychiatric; that they consult their family physician and expect his understanding and advice; therefore, it can not be emphasized too strongly that the physician needs to be familiar with the nature and symptoms of the beginning of nervous or mental disorders. The physician is expected to give advice to the patient and his family; he is the Father-Confessor of his patients and their families. In this role he comes in contact with their struggles and anticipations, their fears and aspirations and mental upsets which are occasioned by the natural and accidental crises of life; namely, birth, childhood, puberty, adolescence, love, marriage, sex relation, child-bearing, climacteric, old age, death. It is to the physician they go when there are problems involving these changes and he should be able to recognize the abnormal condition or symptom and be able to guide the patient through this period, or to get such assistance as is necessary. This cannot be accomplished by examination and treatment of body alone. The mind must be examined and treated. Too, the environment in which the patient lives must be considered; and if you please, be treated and corrected.

In my biennial report to the Mississippi State Legislature, 1941, I had this to say:

THE FUTURE

"The Mississippi State Hospital is not a static thing. It is a moving force. As proud as we are of past achievements and present facilities, we must plan continuously for the future. Our work is never done.

"The fact that more than half the hospital beds of this country are occupied by mental patients indicates our appalling problem. It is for mental patients that this hospital was established.

"To receive and keep any other kind of patients is a violation of its purpose, is cheating the mentally ill of opportunities for restoration.

"If it is the wish of the people to change the Mississippi State Hospital from a mental hospital or asylum to a refuge for the criminal, a retreat for the aged, an almshouse for the county poor, a sobering-up going for dunks—then, let's fact facts and legally change its name and its purpose.

"It can't be a miscellaneous hospital.

"Knowing that much mental illness can be prevented, especially in childhood and adolescence, we are working on a state-wide program of preventive mental hygiene in coöperation with the State Board of Health. It will save money; it will prevent human misery.

"This program involves the equipment of a psychopathic building for the reception of border-line cases that may be examined and treated without even being actually committed to the hospital proper.

"We plan a nurses' training school at Whitfield in coöperation with the charity hospitals. It would more than pay its way. The plan is professionally sound. The state has no provision for training its young women in psychiatric nursing. They must go to other states, probably never to return.

"Commitments to our hospital are still being made under the 93-year-old jury law, which authorizes a jury of three laymen to diagnose or rather "try" a person suspected of being mentally ill and commit or rather "sentence" him to Whitfield. Often he is brought in handcuffs. The whole procedure is the same as used with criminals.

"Obviously such a pernicious, inhumane law should be repealed and the diagnosis of memtally ill as well as of physically ill be put into the hands of the medical profession, as has been done in most progressive states. In most of them an attendant and a nurse escort a mental patient to the hospital thus giving the patient a favorable instead of an antagonistic introduction even before he arrives for treatment. Common sense and common decency suggest such a plan.

"With a patient population already growing beyond capacity and with a fixed legislative appropriation, our per capita allowance continuously becomes smaller, as the cost of everything increases.

"Under the law that requires that every patient who can pay must do so, we have surveyed carefully the financial ability of our patients now here and investigated carefully new ones as admitted. From this source we have increased our income materially. But more than 95 per cent of our patients cannot pay their way.

"We discuss our problems freely and frankly with you, our legal trustees, and also freely and frankly with all the people of this state, all of whom also are trustees of this great humane institution.

"For we believe that more hearts are centered on Whitfield because of the countless thousands of people who have friends and loved ones here than on any other single humanitarian enterprise of this state.

"It is my purpose and my prayer that Mississippi's mentally ill shall never be denied any ray of hope that modern medical science may suggest and that the maternal love of a great state can provide."

Clinical Discussion of Cancer of the Uterus*

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THERE WERE 290 deaths from cancer of the uterus in the state of Mississippi in 1940, 124 in the white race and 166 in the colored race. Death in the United States in 1940 from cancer in uteri was 16,471, a death rate per 100,000 population of 12.7. Frank[1] states that of all women who died between the ages of 45 and 60, twenty per cent of whom die of cancer, in one-third the growth is in the uterus. In the past five years there has been an annual rise in the recorded deaths from cancer.

This report is a clinical summary of a series of 151 cases of carcinoma of the cervix and body of the uterus which have been treated in the Cancer Clinic of the Vicksburg Sanitarium for a period of the past ten years. There were 133 cases of cancer of the cervix and 18 cases of the body of the uterus.

TABLE 1.

CARCINOMA OF CERVIX—TEN-YEAR PERIOD

Total number of cases studied		151
Locations of Lesions:		
Carcinoma of cervix	129	
Carcinoma of cervical stump	4	
Carcinoma of body uterus	18	151
Race:		
White	88	
Colored	63	151

Unquestionably[2] much can be learned from the analytical survey of a fairly large series of cases of cancer of the uterus. The information obtained therefore includes the most manifest clinical signs and symptoms presented by the patient, the age at which cancer is more likely to occur, conditions complicating the presence of a malignancy, the time element which has elapsed since the onset of the clinical symptoms, the type and extensiveness of the growth, the treatment given, and the final results.

The medical profession has taken a great deal of care in the last few years to remind the public of the early signs and symptoms of cancer, but it is our responsibility to take every precaution to examine these individuals carefully and properly when they do present themselves for examination, and at every opportunity to disseminate this knowledge freely amongst ourselves so that we will remain cancer conscious. I know of a case of cancer of the cervix who is perfectly intelligent, had listened to the advice given to the laywomen concerning the early signs of cancer and when she went to her family doctor for examination because of the vaginal discharge which she had heard was an early possible sign of cancer, he assured her that there could be nothing wrong and that the only thing she needed was a douche to relieve the discharge. Needless to say he did not do a pelvic examination. Later on as her discharge increased she went elsewhere and found her real condition, fortunately in time to receive adequate treatment and is at this writing still living.

This clinical evidence which we gain from the study of a series of treated cancers may help enforce the fact that an individual can be relieved of a malignancy if she is intelligent and follows the directions of present day teaching and seeks early advice, gets the proper examination and at the same time receives adequate treatment. But only can this lay coöperation be obtained when every doctor remains cancer conscious, and takes nothing for granted as illustrated in the above case.

It[3] has been stated that carcinoma always starts in a single cell. All papers on this subject stress the point that a relatively high percentage of cures can be expected when treatment is started early. It is unfortunate however that even today the majority of patients who come to hospitals where recognized adequate treatment can be given are well past the hopeful stage. The challenge is up to us, the medical profession, not to forget that there are certain facts which are evident in the presence of cancer of the uterus, as there are positive findings in early cancer of other areas, as nodules in breast cancer, digestive changes in cancer of the stomach, bowel changes in cancer of the colon, and urinary changes in cancer of the genito-urinary tract.

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*Read before the Section on Surgery at the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 13 and 14, 1942.

TABLE 2.
DURATION OF SYMPTOMS OF CARCINOMA OF CERVIX AND BODY OF UTERUS

Symptoms:	*Number of Patients*	*Per Cent*
(a) Bleeding	146	96.68%
(b) Vaginal Discharge	135	89.40%
(c) Pain	89	58.94%
(d) Urinary Symptoms	3	1.98%
(e) Constipation	1	0.66%
(f) Loss of Weight	64	42.58%
(g) Anemia	9	5.96%
(h) Mass	18	11.92%

Duration of Symptoms	*Number of Patients*	*Per Cent*
Less than 6 months	72	47.62%
6 to 12 months	36	23.84%
1 to 2 years	18	11.93%
3 to 5 years	7	4.64%
More than 5 years	14	9.32%
Unknown	14	9.32%
Shortest known symptoms reported		1 week
Longest known symptoms reported		10 years

SYMPTOMS

There are definite symptoms which have been classified as the commonest ones which are evident when we are dealing with cancer of the uterus, especially in its earlier stages. The laywoman has been taught that any change in the discharge from the vaginal tract is an indication of a possible change in the uterus, which may be of a cancerous or precancerous origin.

LEUKORRHEA

First, leukorrhea, commonly known to the laywoman as whites, is a forerunner of changes in the cervix. In fact, many cases of cancer of the cervix have already developed before there is any breaking down of the tissue sufficient to cause a bloody discharge, and the early mucopurulent drainage from the vaginal tract should be investigated. The discharge may be a simple watery one, or it may be a thick dense leukorrhea which may be associated with mixed infection, such as yeast, trichomonas and other vaginal flora. These discharges may have or may not have odor. Usually when we have a discharge which has a fetid odor streaked with blood we are usually dealing with an extensive ulcerated lesion of the cervix which is more or less beyond help and we can offer very little in the way of cure. Many women at home are treating themselves for slight leukorrhea without knowing any real reason for its existence. This is a dangerous procedure and should be emphatically discouraged as every cancer in its early stages must start with a simple discharge and any woman who undertakes to treat herself is taking a terrible risk.

BLEEDING

The commonest symptom is bleeding. This bleeding may occur at the interval between the regular menstrual cycle or it may be a prolongation of the cycle. No doctor can afford to fail to find the cause of this bleeding when a woman comes in with any of these signs. Other patients complain of bleeding after intercourse or douching. This bleeding may be present for varying lengths of time, before the patients present themselves for finding of the cause for it. The average time is usually six months, and in this series it varied from one week to ten years. There are cancers of the uterus which have no change in the menstrual history or any evidence of spotting of blood, but these are rare. We find cancer present in women who come in complaining of failure to menstruate for several months, or years, and then later have a recurrence of the bleeding. This is the usual description of post-menopausal bleeding, and any woman who begins to bleed following the menopause, if there is no evidence of lesion of the cervix, she should certainly be subjected to a diagnostic curettement. Thus many undiagnosed cases of cancer of the uterine cavity or the cervical canal will be found before it is too late.

PAIN

Pain is mentioned as one of the symptoms of cancer of the uterus. When pain develops we naturally think that the cancerous process has extended from the cervix and the body of the uterus into the parametrium and has encroached on the pelvic structure, and usually we are right in this surmise. After cancer has spread into the parametrium and involved the lymphatics of the pelvic area with the resulting reaction in the adjacent tissues, then of course pain will develop. It is true that secondary inflammation and infection which develops in the parametrial tissue may cause severe pain, but because that pain is present we should not always feel that we are dealing with an entirely hopeless case of malignancy, though in the majority of cases this will probably be true. The more extensive the lesion, the more marked the pain, and the more unfavorable the prognosis. To classify the degree to which the malignancy extends, the Cancer Committee of the League of Nations has devised a classification as follows: Group I, the early lesions which are limited to the cervix with free mobility of the uterus; Group II, invasion of the vaginal wall and beginning involvement of the paracervical and parametrial tissues, the uterus still mobile; Group III, marked infiltration of the paracervical and parametrial tissues, the uterus fixed; and Group IV, invasion of adjacent viscera with or without fistula and with metastasis. The more progressive the group, the more dreadful is the outcome.

Urinary

Many cases of cancer of the uterus complain of urinary history and if there are symptoms of urinary tract involvement these patients should be subjected to study, such as careful cystoscopy, which will reveal if there is any protrusion or mass encroachment on the bladder floor, or if there is any evidence of blockage of the ureters or disease of the upper urinary tract. The commonest symptoms would be nocturia with frequency and with pain, and later evidence of hematuria which should be thought suggestive of extension of malignant lesions into the urinary tract. In this series of cases there were few patients who had any associated urinary symptoms which were found to be somewhat of a surprise because it is stated by several authors in the literature that urinary symptoms are not an uncommon complications even in early stages of malignancy. Constipation is mentioned as a symptom of malignancy of the uterus, but in our series we did not find that this was evident. Other associated symptoms of malignancy which are noted are loss of weight and anemia. Of course these, like urinary symptoms, may be due to the rapid development of the disease and the beginning of the end. When a patient is beginning to reach the cachectic stage, tumor growth by that time has involved secondary areas and is in every probability beyond any help.

Pregnancy

The role of pregnancy in cancer of the uterus is one which should be briefly discussed. I think that it is probably agreed that pregnancy is one of the traumatic forces which prepare the field for the later development of malignancy. However, as brought out in the literature, and in our own series of cases 29 individuals had cancer who had never had any children, or 19 per cent; however, most cervical cancer was found in women who had children.

As to cancer developing during pregnancy, it is probable that the presence of the pregnancy is purely a coincidental occurrence and that pregnancy and carcinoma of the cervix together are rare. Chalfant and Merring[4] state that in approximately 40,000 pregnancies they could find only four cases of carcinoma and Cranford could find only three cases in 20,444 pregnancies, and the great DeLee states that he found one case in about 13,000 pregnancies, so with this data at hand it is evidently a rare occurrence, but nevertheless, one that should be borne in mind. We do know that when we have pregnancy and malignancy at the same time because of the hyperactive state and the rapid changes in the tissues which they undergo during pregnancy, that maligancy will develop more rapidly. In this series we had seven cases which were associated with pregnancy at some time during the gestation. It recalls to us very vividly the case of a woman 33 years of age who had one child 12 years old. She had recently lost a little girl at two months and she was very desirous of having another baby. After eight months had elapsed following the death of this baby this woman again became pregnant and presented herself to us as an obstetrical candidate. Her general examination was satisfactory. The cervix was not ulcerated, was soft and spongy as the usual multipara cervix may be in early pregnancy. There was some vaginal drainage which showed the presence of the yeast organism. She had the usual prenatal care in the outpatient department without any evidence of complication. She was lost sight of for a period of about two months because of illness of members of her family who lived elsewhere. On returning she presented herself to us for examination stating that she had passed an unusual amount of watery discharge. The examinations of the cervix showed a wildly growing cauliflower-like structure. Needless to say, biopsy was taken which showed a grade IV carcinoma. The pregnancy had developed to about seven months. We had no time to lose in removing this uterus and the pregnancy. A classical section was followed by supravaginal hysterectomy. Needless to say, the baby was not viable. Following the surgery the remaining cervix was radiated with adequate doses of radium and we are glad to state that this patient is still living, ten years having elapsed since this treatment. We have described this case because it illustrates so graphically how rapidly cancer can develop in the presence of pregnancy, and although she had a persistent vaginal discharge, out of usual proportions, the cervix in its early months of pregnancy did not look suggestive of an ulcerated lesion. We have on several occasions noticed ulcerations of the cervix or ragged looking cervix in the early months of pregnancy especially in multipara, and have told the individuals so affected that it is best to cauterize the ulcers at the time of their first presentation because if the condition is permitted to remain it might develop into a malignant state. In no instance has this procedure been followed by ill effects, so where is a profuse seropurulent or mucopurulent vaginal discharge, even though trichomonas and yeast cells are found in the vaginal smears along with an ulceration, in my opinion it is advisable to treat the ulceration with the cautery.

TABLE 3.

CARCINOMA OF CERVIX ASSOCIATED WITH PREGNANCY

Age	*Race*	*Type and Grade*
25	W	Squamous cell (grade IV)
28	W	Adeno-carcinoma (grade IV)
29	W	Squamous cell (grade III)
31	W	Squamous cell (grade I)
34	W	Squamous cell (grade I)
38	W	Squamous cell (grade I)
40	W	Squamous cell (grade I)

Progress of Pregnancy	*Number*
Full term	1
Two weeks	1
Three weeks	1
Not specified	3
Six weeks post-partum	1

Symptoms		*Procedure*	
Bloody vaginal discharge	3	Delivered at term:	
Leukorrhea	2	Normal	1
Prolonged menstruation	1	Forceps	1
Loss of weight	2	Pregnancy interrupted	5
Sore mouth, two weeks past menses	1		
None in for full term pregnancy	1		

Treatment		*Results*	
Radium	4	3-year cure	1
Subtotal hysterectomy and radium	1	4-year cure	1
Total hysterectomy	1	8-year cure	1
Cautery	1	9-year cure	1
		10-year cure	1
		Untraced	2

Before leaving the subject of the symptoms of cancer of the uterus we must make a few remarks about the presence of cancer in the cervical stump left behind following a supravaginal hysterectomy. Unfortunately many women, when they are operated on and are told that the uterus has been removed, feel that they are cancer protected. They do not realize that when a supravaginal hysterectomy has been done that they still have the most vulnerable part of the organ still present. There has been a controversy pro and con in the literature for several years about removal of all cervices at the time that hysterectomy is done providing there are not definite contraindications for the procedure. This[5, 6] has been dealt with most effectively in the literature and will not be stressed here. However, it is our practice to remove the cervix in every case which does not give any definitely added risk to the patient. Approximately 70 per cent of our hysterectomies are complete. In this series we present several cases of cancer of the cervical stump. The symptomatology of this condition is the same as the malignancy of the cervix at any other time.

As to the age and the race incidence in this series it is as follows: Those in the colored race unquestionably had advanced further than those in the white series, simply because of the fact that poor economical conditions and the early symptoms of malignancy (discharge from the vaginal tract is not an unusual condition in the negro race) did not bring them to early examination. It often happened that loss of considerable blood with marked ulcerated lesion, and in many instances metastasis, had already occurred before they presented themselves for treatment. Of course these cases give us a bad prognosis and increase the poor statistics.

TABLE 4.
CARCINOMA OF CERVICAL STUMP

Age	Patients Treated	Type and Grade of Malignancy	Time Since Previous Operation	Treatment	Results
		Squamous cell		Did not return	
76	1	(grade III)	24 yrs.	for treatment	Dead
49	1	(grade IV)	17 yrs.	Radium	Dead
61	1	(grade IV)	20 yrs.	Radium	Dead
48	1	(grade IV)		Radium and	
		Adeno-carcinoma	10 yrs.	X-Ray	Dead
48	1	(grade IV)			

TABLE 5.
AGE DISTRIBUTION OF PATIENTS SUFFERING WITH CARCINOMA OF CERVIX

Age, years	*Race*	*Number of Patients*		*Per Cent*
20 to 29	W	9		
	C	6	15	9.93%
30 to 39	W	13		
	C	22	35	23.17%
40 to 49	W	26		
	C	15	41	27.16%
50 to 59	W	20		
	C	13	33	21.86%
60 to 69	W	14		
	C	6	20	13.25%
70 to 79	W	5		
	C	1	6	3.97%
80 to 89	W	1		
	C	0	1	0.66%

Youngest patient, colored, 1 child· age 24 years.

Oldest patient, white, 1 child, 89 years.

Smallest number of children (21 Patients)	-1
Largest number of children (1 Patient)	-14
No children (29 Patients)	
Average number of children (100 Patients)	-4
Carcinoma of cervix before menopause	56 cases
Carcinoma of cervix after menopause	66 cases
Not stated	29 cases

DIAGNOSIS

Early diagnosis of cancer is essential if we wish to get a satisfactory result. This diagnosis is obtained by careful inspection of the external genitalia, and the evidence of a discharge whether it be simple, odorous or hemorrhagic. A bimanual digital examination should then be resorted to, care being taken to check the uterus for mobility and the cul de sac and fornices for induration or parametrial masses. The cervix should be palpated with the index finger to ascertain whether there is any irregularity or the presence of a polyp or cauliflower-like growth.

By far the most important examination of the cervix is that which is done with a bivalve speculum with the patient lying in the dorsal lithotomy position. The cervix is then brought to view to direct vision and early erosions, granular tears or lacerations of any sort being easily observed. If the presence of a slight erosion is suspected, the Schiller test may be used. This test is not diagnostic of cancer but reveals a suspected area from which biopsy may be taken and the presence or absence of cancer proved. This test is only applicable in the surface erosion. If there is no surface cervical erosion or ulceration but the cervix is markedly altered, such as enlargement and induration to digital touch, there is a possibility that there is an intracervical growth and this may be investigated by the passing of a small curette into the cervical canal and tissue removed. Not infrequently with intracervical cancer there may be a blockage of the lower portion of the canal. When this constriction is broken open and there is a flow of blood, granular tissue can be obtained.

There should be no guesswork about the diagnosis of any tissue observed. All tissues should be examined by a pathologist as the diagnosis of the type of malignant tissue which has been removed is of definite value as to prognosis.

In this series of cases there were 151 which were examined according to the above description and of that number 139 had definite biopsy pathological examinations, with definite known cancer being found present. This step naturally gives us statistics that have real value because if a patient is treated for cancer who does not have cancer, then the results will be misleading and the patient may suffer grievous consequences from treatment not indicated. In other words treatment for supposed malignancy not verified by a biopsy, to say the least, will cause damage to the patient.

I think it is worth while to mention that when a biopsy is taken, one should be careful to get an adequate area of the suspected tissues and if possible, to include some of the normal tissue which is adjacent to the tissue taken. This is best removed with either a sharp biopsy punch or by a scalpel. The thermocautery is advocated but I do not think that this is essential as the action of the heat may be detrimental to the cells to be examined and might be troublesome for the pathologist to give a definite classification.

As to the taking of biopsy I do not think that we need to worry about causing any great amount of discomfort as we have never found it necessary to use any type of anesthesia, except in doing a curettement of the uterus in which fundic carcinoma has been suspected.

Slides number 6 and 7 show the number of patients subjected to biopsy and the diagnoses as returned by the pathologist.

TABLE 6.

FINDINGS AT EXAMINATIONS

Cauliflower	49
Ulcer	49
Erosion	27
Granular and Friable	6
Sloughing	4
Spongy	3
Palpillary Growth	2
Fundus and intracervical growth unidentified until post-operative	11
Total	151

TABLE 7.

RESULTS OF BIOPSIES

Squamous Cell:		
Grade I	14	10.08
Grade II	6	4.32
Grade III	17	11.52
Grade IV	77	55.39
No grade	4	2.87
Adeno-carcinoma:		
Grade I	1	0.71
Grade II	3	2.16
Grade III	9	6.48
Grade IV	4	2.87
No grade	2	1.44
Cylindrical Cell (Grade III)	1	0.72
Leiomyoma, malignant	2	1.44
Total Biopsies	139	
No Biopsies	12	
Total	151	

TREATMENT OF CANCER

Since 1921, radium therapy has been employed at the Vicksburg Sanitarium for carcinoma of the uterus. Today it ranks as the most effective method of combatting cancer of the uterus especially in the stage in which we see the majority of these lesions. The growths to be treated have all been evaluated as to the extensiveness of the growth and as to the type of malignancy present by careful biopsy obtained at the time of examination. In extensive lesions metastatic involvement is looked for, such as x-ray study of lungs and pelvic bones for metastasis.

Surgery still has a place in treating the early lesions confined to the cervix, and is still advocated by some clinicians. Some of our best results in this series have been in these types of early cancer which were only suspected at the time of operation, when surgery was done for abnormal uterine bleeding, or cervical erosions, which did not show cancer at biopsy but after routine examination of pathology removed at operation showed evidence of early cancer. However this finding was only met with on four occasions and it is exceedingly rare that we get one this early.

Lesions which are not very early and which are not localized in the cervix will give the best results following radiation alone or may be given in association with deep x-ray therapy.

The accepted treatment of cancer of the body of the uterus is a preliminary radiation of the uterus of at least 2400 milligram hours of radium as the initial dose, followed by total hysterectomy, provided the patient's age and general condition justify this procedure. In treatment of cervical carcinoma we think that the time element of treatment is important. Instead of small doses of radium given over a long period of time we gave radiation rapidly, obtaining the minimum dosage of 7200 milligram hours within an average of one week, and several of these cases received as much as 12.000 milligram hours. Some cases needed secondary radiation at a later period because of suspicious bleeding or fixation, but this has only occurred in a small percentage of cases.

We believe the best results have been obtained by giving a maximum dose in quickly repeated applications, and we feel that 7200 milligram hours is the least that any patient should have, and this radiation be applied as rapidly as expedient for the condition of the patient.

The radiation in this series was applied by interstitial application of radium needles within the tumor growth, or incorporating radium in metal filters, platinum or brass capsules, in the cervical canal, in the fundus of the uterus, and in the vaginal tract, either against the cervical structures in each cul de sac, or within the restrictions of certain applicators which keep the radium in the desired position during the time of radiation. Between applications of the radium the patients were usually given only 24 hours' rest between each application, and in some cases the therapy was continued. As soon as the radium was taken from one area it was placed in another area until the complete radiation of the area and dose desired was completed. Many cases in this series presented should have had more adequate radiation but because of the fact that they were lost sight of and failed to return for treatment as advised explains why some of them received such small doses of radium. This was in the earlier years of this series when the radiation was not completed as rapidly as it is now.

If we are to obtain lower death rates from cancer of the uterus, each surgeon, internist, general practitioner, every physician who assumes the responsibility of advising a patient as to her health, must be ever cancer conscious and not wait for a patient to come in with symptoms of cancer. An examination at reasonable intervals on those individuals who have intrusted their health in a doctor's hands will insure many cases of precancerous or symptomless cancer tissue being identified and adequate treatment given.

TABLE 8.
RESULTS ACCORDING TO TYPE OF TREATMENT

	Known	*Results*			
Classification of Treatment	*Patients Treated*	*Cured*	*Died*	*Improved*	*Not Traced*
Radium	97	29	37	14	17
Radium and x-ray Therapy	5	0	4	1	0
Radium and Surgery	3	2	0	0	1
Surgery	21	10	7	1	3
Cautery	1	1	0	0	0
Treatment incomplete, patients did not return	9	0	2	4	3
Treated elsewhere	8	7	0	1	0
Not recorded	6	0	6	0	0
Rest in bed, tuberculosis	1	0	1	0	0
TOTAL	151	49	57	21	24

Biopsies were obtained in 139 cases or 92%.

Thirty-two of the above listed cured are five years and over.

TABLE 9.
RADIUM THERAPY

Total number of patients treated with radium	105
Fractional doses administered:	
Smallest	1,200 MGH.
Largest	11,520 MGH.
Average	5,400 MGH.
Period of time over which radium was administered:	
Shortest	1 day
Longest	8 days

In no cases was deep therapy treatment used alone. Deep Therapy was used in conjunction with radium in 8 cases.

TABLE 10.
RESULTS OF TREATMENT OF CARCINOMA OF CERVIX, BASED ON THE GRADE OF MALIGNANCY

Type and Grade of Malignancy	Patients Treated	Living Under 5 Years	Cure 5 Years Over	Improved	Not Traced	Died
Squamous Cell:						
Grade I	14	0	7	0	5	2
Grade II	6	0	6	0	0	0
Grade III	16	3	2	1	3	7
Grade IV	77	6	9	18	8	36
No Grade	4	0	0	0	3	1
Adeno-Carcinoma:						
Grade I	1	0	0	0	0	1
Grade II	3	2	1	0	0	0
Grade III	9	3	3	0	1	2
Grade IV	4	0	1	2	0	1
No Grade	2	0	1	0	0	1
Cylindrical Cell (III)	1	0	1	0	1	0
Leiomyoma malignant	2	1	0	0	1	0
No Biopsies	12	2	1	0	3	6
TOTAL	151	17	32	21	24	57

TABLE 11.
CARCINOMA OF FUNDUS OF UTERUS

Total number of cases		18

White, - 13; Colored, - 5.

Age: Youngest, 29; Oldest, 89; Average, 52.

Type and Grade of Malignancy:		
	Adeno-carcinoma (grade I)	1
	(grade II)	2
	(grade III)	7
	(grade IV)	2
	Leiomyoma malignant	4
	No tissue	4
Treatment:	Radium	4
	Radium and X-ray	2
	Surgery	9
	Surgery and Radium	1
	No treatment	2
Results:	Five year cure	3
	Five years and under	5
	Died	4
	Not traced	4
	Under treatment	1
	Unimproved	1

TABLE 12.

Total number of cases analyzed	151
Carcinoma of cervix	129
Carcinoma of cervical stump	4
Carcinoma of corpora	18

Grade of Malignancy	Living	Died	Patients Living Five Years or More After Treatment
I.	7	3	7
II.	9	0	7
II.	13	9	6
IV.	31	37	10
Leiomyoma malignant	1	0	0
No grade	2	2	1
No biopsy	3	6	1
Total	66 or 43.69%	57 or 37.76%	1

RECAPITULATION OF 151 CASES TREATED

Living 5 years and over	32 or 21.19%
Living under 5 years	34 or 22.50%
Died	57 or 37.76%
Unclaimed and untraced	28 or 18.55%
Total	151 (100.00%)

SUMMARY

One hundred and fifty-one cases of cancer of the uterus have been studied with the following conclusions.

Symptoms which cause patients to seek medical advice are bleeding and vaginal discharge. The other listed symptoms are of no definite value in the early diagnosis of cancer of the uterus because they can be associated with many other diseased conditions of the pelvic area. The symptoms may be so manifold that the patient will not present any definite type. Because of the complexity of the complaints it is very necessary to subject the patient to a thorough inspection of the cervix, regardless of her complaint.

The average age of patients in this series was 43 years. Cancer was noted occurring more frequently from 40 to 49 but was seen in relative proportion in all ages under 55 with only slight variation, and no age could be stated as less liable.

Four cases of cancer of the cervical stump were found in this group. All could have been saved their terrible ending by a total hyterectomy at early operation.

Pregnancy and cancer was associated in an unusual number of cases in the small series of seven. A nulliparous woman is not cancer-free as shown by the presence of 29 cases in this series in nulliparious individuals. However, 122 were parturitive, having had an average of four babies each.

Carefully taken biopsies are most important in making a diagnosis, and are most essential before treatment can be carried out.

Grade IV carcinoma was the most common grading found in this series, 77 or 50.9%. The prognosis in grade IV carcinoma is always poor as shown by the mortality statistics, or 45.7%.

Radium is the recommended type of therapy. At least 7200 milligram hours of radium are recommended in as short a period of time as possible.

Lastly, cancer of the uterus can be cured, for out of a small series of 151 cases, 32 or 21% are living five years or more and 34 or 22.50% are still living and the follow-up on these cases shows the majority of them considered that they are cured, although this can not be deducted until more time has elapsed.

To improve our results and treatment of cancer of the uterus we must remain cancer conscious and make as many pelvic and cervical examinations as possible and tell no patient that her symptoms or complaints are of no consequence until we have satisfied ourselves with a careful cervical examination.

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DISCUSSION

DR. H. LOWREY RUSH (Meridian): I should like to compliment Dr. Birchett on the presentation of his excellent and timely paper which was prepared in his usual interesting and thorough fashion.

In the selection of the proper treatment for cancer of the uterus, it is not a question of the superiority of either surgical or radiological procedures, but of determining the proper form of treatment best suited to the individual case. This should be determined by taking into consideration the skill and experience of the surgeon, the character of the lesions, including the cell type of the growth, and the general condition of the patient.

Radium therapy has largely superceded surgery in the treatment of cancer of the cervix. It has been our experience, however, that it should be used intensely at the first application to be effective, for repeated insufficient treatment seldom controls the condition. In an effort to relieve pain and retard local metastasis in established cases, x-ray treatment should be combined with radium. Surgery should probably be limited to very early malignancies in first class surgical risks.

Hysterectomy, either by the abdominal or vaginal route, remains the treatment of choice in properly selected cases of cancer of the fundus. Obviously, the removal must be complete, taking out the entire uterus with both tubes and both ovaries.

The curability of uterine carcinoma, especially of the cervix, is dependent upon its early detection. The duration of life without treatment is longer in fundal than in cervical carcinoma because the extension is slower. The trio of symptoms: bleeding, leukorrhea and pain should call for a thorough examination. However, pain is a late symptom and leukorrhea may be overlooked. Bleeding is apparent in three-fourths of all cases and is of a metrorrhagic rather than a menorrhagic type. Uterine bleeding after the menopause should always provoke a suspicion of malignancy.

In closing, I should like to stress and endorse the plea made by Dr. Birchett for careful examinations in these cases including biopsy of the cervix and uterine curettage with microscopic study of the scrapings for accurate diagnosis. We should also remember that careful curettage of the cervical canal should be adopted as part of the diagnostic curettage. Any method of diagnosis or treatment not based on microscopic evidence is dangerous.

Dr. M. M. Snelling (Gulfport): It is both a pleasure and a privilege to discuss a splendid paper such as the one we have just heard.

There has been an annual rise in recorded deaths of cancer. Why? First, we are being educated in postgraduate assemblies, by papers and statistics such as we have just listened to; second, the laity are gradually becoming acquainted with some of the warning signs and symptoms. A great clinician ten years ago expressed the belief that 33% of cancers of the cervix develop while a woman is being attended by her family physician, in other words, right under his direct supervision. When a female patient gives the slightest suspicious history, it is our duty to examine her.

Wollner in 1938 made a series of eighty biopsies on women who had no history, complaint, or visual evidence of female disease or dysfunction. In this small series, two cancers were discovered and promptly treated.

The author stressed discharge as the first and bleeding as the second sign. It is during the discharge stage that cancer can be reached at its most easily controlled condition. I agree that diagnostic curettement is most definitely indicated in the presence of discharge of postmenopause bleeding, where no pathology is visible in the cervix. At this point, do not forget that bridge between the two—the upper cervical canal and the inner os.

I will not dwell on pain as it is far better to know what is wrong before pain develops. Surely one of the first two cardinal signs will appear before invasion and fixation have begun to produce pain. In a paper on cervical lesions treated with fulguration current of diathermy, I quoted Martinis and others as stressing the use of the cautery to the diseased pregnant cervix. Only recently I did a biopsy on a badly scarred, vascular, and ulcerated pregnant cervix, and the tissue removed was a large amount. Fortunately, it was not malignant, but if you have ever noted once how fast cancer can spread in the pregnant cervix, then you will join the ranks of the radicals and do whatever prophylactic measures are necessary to a diseased and pregnant cervix.

Dr. E. C. Parker and I have an occasional argument about the cervical stump. Except for a slight increase in mortality, undoubtedly a complete hysterectomy is indicated. However, there are two schools of thought. Pfaneuff reported on over five hundred subtotal hysterectomies, but he claims to have removed the possibility of cancer in the stump by thoroughly cauterizing from this stump all of the functional tissue. In our small hospital, about 65% of hysterectomies are subtotal, but it may be added here that the above policy is carried out and the cervical stump which remains is virtually cauterized down to a small fibrous nodule by high-frequency current.

It will be noted that the largest number of cancer patients is found between the ages of 30 and 50. Therefore, please keep this spectre ever before you. Biopsy cannot be too greatly stressed. It is too easily carried out to be only used in special instances. A clinical discussion such as the one that Dr. Birchett has offered not only carries a message but it also emphasizes a challenge which American womanhood tenders the profession as a whole. The gauntlet is at our feet. We must not fail this trust.

Arthritis*

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MUCH IS BEING accomplished to help victims of diseases such as tuberculosis, mental disorders, cancer, poliomyelitis and others, but not enough is being done towards helping the rheumatic individual. When we consider the loss of time from work and other incidental expenses pertaining to their ailments, we find that millions of dollars yearly, for our nation alone, are being spent for this malady. In the United States chronic rheumatism in 1932 caused a loss of 200 million dollars to the disabled. In Massachusetts alone 140,000 people suffered with chronic rheumatism (3.29% of the total population). In that state there are more cases of chronic rheumatism than of heart disease, tuberculosis, and cancer combined.

My purpose in choosing this subject, and emphasizing some more recent clinical aspects, is:

(1) To condemn many opinions existing among practicing physicians, especially against over-medication and inoculation.

(2) To abandon exhausting searches and fights toward elimination of sources of questionable focal infection.

(3) To urge a more carefully planned and properly managed treatment schedule.

(4) To encourage proper classification and diagnosis.

(5) To discuss treatment after the general constitutional nutritional and economical aspects.

In observing sufferers of arthritis, I find so frequently that had there not been so much needless surgery, and medication, and had more attention been paid to constitutional and local conditions, the picture might not have been so pathetic. So often we do see a rheumatic arthritis that has been from "pillar to post" for treatment and guidance, having received no care in the essentials of nutrition, physiotherapy, etc., and yet on the other hand he or she has undergone hazardous ordeals of loosing all teeth, tonsils, appendix, gallbladder, pelvic organs and what not, plus the punishment of taking many different and toxic types of treatment whether approved or not.

There is no completely satisfactory classification of arthritis today. The popular tendency is to classify all arthritis into two types, based on bone and muscle changes principally, namely atrophic and hypertrophic arthritis. In atrophic as well as hypertrophic there are many similar and synonymous headings, however the following will suffice as a working guide in the study of arthritis.

CLASSIFICATION

1. Traumatic Arthritis.
2. Infectious Arthritis.
   (a) Those cases due to infection of known and identified bacteria, as gonorrhea, focal infection, tuberculosis, etc.
   (b) Those cases due to infection or toxins of unidentifiable origin, as rheumatoid (atrophic).
3. Degenerative Arthritis.
   (a) Characterized by degenerative tissue changes and the osteo-arthritic type.
4. Chemical Arthritis.
   (a) Chemical agents, etc.
5. Neoplastic, neoplasma, malignant and benign.
6. Miscellaneous.

ESTIMATED FREQUENCY OF ARTHRITIS IN GENERAL PRACTICE

Of 100 patients with sufficient arthritic symptoms to present themselves to their physicians, frequency will be noted:

1. Infectious arthritis, atrophic (rheumatoid)	30 to 40%
2. Senescent, arthritic, hypertrophic (osteo)	25 to 30%
3. Fibrositis, intramuscular and periarticular arthritis	10 to 20%
4. Traumatic arthritis, including sciatica	7 to 10%
5. Gouty arthritis	3 to 5%
6. Miscellaneous type, psoriasis, tuberculosis, arthritis of ulcerated colitis, charcot's	3 to 5%
7. Gonorrheal arthritis	2%
8. Rheumatic fever arthritis	1%

My discussion will be limited to the most serious, and disabling types of arthritis, rheumatoid or infectious arthritis. Although there are many other types that are of interest time will not permit their discussion here.

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Rheumatoid arthritis, or infectious arthritis, the cause of which is unknown today, is not thought to be the result of focal infections, and thereby differs from these known specific types of infectious arthritis. It occurs in females three or four times as frequently as in males and especially in the ages of twenty to forty. Although no age is exempt, when rheumatoid arthritis does occur in the older age, it may not be classical or it may be associated with another form of arthritis. Rheumatoid arthritis is characterized clinically by an acute or gradual chronic form of atrophic arthritis. When acute there is painful swelling of many joints, particularly the proximal pharyngeal, wrist, knee, and lest frequently elbow and the remaining joints, with redness of the joints and a typical skinny appearance with muscle spasm and atrophy as well as constitutional symptoms of fever, leukocytosis, secondary anemia, weight loss and increased sedimentation rate. At this state active inflammatory reaction involves the tissues about the joints including the synovial lining, fibrous capsule and invasion into the joint cavity by the so-called and characteristic pannus formation, with marked destruction as time goes on of cartilage and atrophy of bone marrow, and bone of the epiphysis, with the resulting deformities, marked muscle spasm and atrophy. This process here frequently resembles rheumatic fever arthritis clinically, but has many other phases that usually differentiate it. Rheumatic fever arthritis rarely produces destruction of the joints but usually does its damage to the heart, and rheumatoid arthritis rarely damages the heart but does its damage to the joints. The important feature here, from the general practitioner's standpoint, it to take care of the local condition with proper heat, salicylates and support, rest, etc., and also the constitutional condition in a broad painstaking manner. In the later stages physiotherapy, usual simple methods of massage, and prevention of muscle atrophy and deformities are indicated. I prefer the simple home remedies of heat tents, hot water baths and massage with proper precautions.

As regards medical treatment there are some practical points to consider. The treatment of arthritis is much like the treatment of tuberculosis. Each one should be individualized for treatment. In the very acute form complete rest, heat with heat tents and lamps, and salicylates in large doses are most effective. Occasionally stronger sedation may be used, with attention to nourishment, particularly if undernourished, and adequate attention to proper elimination. Later in the chronic type of rheumatoid arthritis additional factors are to be considered.

(1) Remove all obvious focal infection without harm to patient.

(2) Prescribe high vitamin and caloric diet (unless obese), properly balanced, anti-constipating. There is no specific food or diet of proved value, contraindicated or indicated as has been talked of for rheumatoid arthritis. The simplest analgesics, preferably aspirin or sodium salicylate in proper doses, are indicated.

(3) Later physical therapy (at home) if possible, rest, bath, massage, joint motion at least twice daily by some capable or practical nurse, and supervised twice weekly by the physician.

(4) Later as the condition warrants care should be given to prevention and correction of various postural defects that tend away to develop as for instance the flexion of thigh and legs, also internal rotation of the legs, which is always due to muscle spasm and so frequently produces contractures. Attention may be given to hands, fingers, wrists, and elbows by similar management. As the condition tends to show improvement other factors may be necessary, as modifying work to minimize trauma. Increase physical therapy, and at times one may call on the orthopedist for measures and advice to reduce trauma, and further prevent or correct deformities, such as bandage, shoe pads, corsets and splints. Later as time permits switch to occupational therapy.

(5) In some properly selected instances spas are beneficial if properly operated.

There are many other mentioned types of treatment, some intended to be supportive, such as the increased nutritional aspect, including blood transfusions, liver extract and vitamins.

Recently much attention has been directed to large doses of vitamin D. Careful survey of the literature and personal experience fails to show any outstanding results of its use, except as a general tonic measure, and some report possible harmful effects.

Thiamin chloride and B complex are advocated only in a supportive way. They seem to be most helpful.

Fever therapy, much talked about, has also doubtful value, however worthy of trying out.

Climatic therapy has some advantages and is frequently used, where economic measures are available, but is not lasting.

Roentgen therapy has been advocated and in certain localities its results are worthy of mention, while in other instances its effects are probably psychic. It is stated that 41% show slight subjective improvement probably psychic, and 30% show slight objective improvement.

Always consider other factors that warrant a try-out in cases not progressing. During the past two years much attention has been given to myochrysine and many other gold salts, and more especially a recent calcium gold salt that is supposed to be much less toxic, calcium aurothiomalate. The gold salts that have been popular in the past seem to have a good effect on rheumatoid arthritis except for certain toxic effects, which prohibit proper dosage so frequently. I feel that these preparations have more to offer than any other product at the present time.

It is strangely noted that the occurrence of jaundice and pregnancy in rheumatoid arthritis always produces regression of all symptoms. No explanation has been given for this.

In conclusion, an attempt has been made to evaluate the present conception and management of the one commonest most harmful type of arthritis, rheumatoid or infectious arthritis. This has consisted of a review with an appraisal of the present factors of diagnosis and treatment of rheumatoid arthritis, more especially condemning many needless and harmful types of medicine, as well as harmful surgical procedures. Also a careful effort has been made to classify the types of arthritis in order that a more sane and thorough plan of treatment may be used, and to urge a better educated public on the nature and treatment of arthritis.

DISCUSSION

DR. DOUGLAS D. BAUGH (Columbus): In evaluating the arthritic patient we must not overlook the ever-present possibility of rheumatic fever as a cause, particularly if the patient is under middle age.

Rheumatic fever is much more prevalent here in the South than is generally recognized; the percentage that comes to our attention is probably higher than the one per cent quoted by Dr. Clarke.

In many cases the arthritic symptoms of this disease are so mild as to be misleading. Do not be misled by the age of the patient; he may reach middle age and still have rheumatic fever.

In reviewing Dr. Clarke's excellent presentation of the arthritis problem we are reminded that some of our disappointments in the treatment of arthritis may be attributed to carelessness in classifying properly the arthritis case at hand. In many cases the class is quite obvious; in others some study and observation will be required, but do not be satisfied long with a diagnosis of just "arthritis."

You will not find a more workable classification than the one just presented by Dr. Clarke.

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Diagnosis and Treatment of Arthritis and Allied Disorders by H. M. Margolis, M. D., Paul B. Hoeber, Inc., N. Y.

Diagnosis of Asymptomatic Luetic Aortitis*

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SYPHILIS, WITH the finding of cases, epidemiological investigations and treatment to non-infectiousness of all cases, presents one of our major problems in the South and especially in Adams County, Mississippi, where the population is two-thirds colored with the incidence of syphilis being 35%. If we consider Surgeon General Parran's observation that one out of ten acquire syphilis before reaching the age of 50 years, our incidence figures would be much higher because the average age of our clinic case load under treatment since the clinic was started is 28.22 years. Statistical studies show the following ages of our case load:

FEMALES		MALES		MALES & FEMALES	
Age in years	No. of Patients in age group	Age in years	No. of Patients in age group	Age in years	No. of Patients in age group
0-5	13	0-5	17	0-5	30
5-10	7	5-10	21	5-10	28
10-15	18	10-15	14	10-15	32
15-20	237	15-20	78	15-20	315
20-25	309	20-25	192	20-25	501
25-30	259	25-30	185	25-30	444
30-35	116	30-35	160	30-35	276
35-40	108	35-40	94	35-40	202
40-45	31	40-45	51	40-45	82
45-50	30	45-50	25	45-50	55
50-55	11	50-55	18	50-55	29
55-60	4	55-60	15	55-60	19
60-65	7	60-65	5	60-65	12
65-70	10	65-70	5	65-70	15
Total No. 1160 of Females		Total No. 880 of Males		Total No. 2040 Males & Females	

Average age of female patient in case load—28.35

Average age of male patient in case load—29.46

Average age of patient (males and females combined) in case load—28.90

If we educate individuals in the young group before their life work is finished—remembering in women the bearing of children with their rearing and guidance, and in the men the danger of infection of their wives and extramarital contacts, or if not married their extra-familial contacts—impressing them with the necessity of maintaining their own physical and mental health so as to provide for themselves and their families, we will be well on the road to success in our fight against this crippling disease.

The treatment of the syphilitic patient to be adequate and beneficial—and in some cases treatment is detrimental if the proper diagnosis of complications and treatment principles are not adhered to—must be predicated on a physical examination which determines the presence of, or excludes those conditions which require special treatment procedures.

Asymptomatic syphilitic aortitis is a very important condition affecting the luetic patient. We have always appreciated the importance of advanced cardiovascular syphilis, but in these cases little can be done; the patient being irreparably damaged. In early luetic aortitis one may assume a more hopeful aspect. The diagnosis here must be made clinically and not at necropsy, and it is only when they die from intercurrent illness that we have a full chance to study them pathologically unless some cardinal treatment procedure is violated and the Jarisch-Herxheimer reaction or therapeutic shock results as in involvement of the coronary orifices. The patient is always surprised when told about this condition and I dare say does not believe it in most cases because he has had no symptoms. There may have been a slight effort syndrome disturbance which the patient may remember, when his attention is called to it but even this I find rare. It is important to impress upon the patient the necessity of continuance of treatment and it is important for the same physician to make frequent examinations before each treatment for a period of six months including electrocardiography to note variations in the fundamental properties of the heart muscle in that particular patient, namely: rhythmicity, irritability, conductivity, contractility and tonicity. Serial radial tracings of the pulse would show variations. Changes in stethoscopic sounds and variations of tonicity will be found from time to time. The Jarish-Herxheimer reaction or intensification of signs heard on second examination is considered a cardinal sign. This does not occur with functional murmurs, valvulitis (non-luetic), hypertensive aortic murmurs, etc., or in a non-luetic patient. It is only in this manner that the signs to be outlined in this paper can be appreciated. The results and findings are based on treatment and frequent examinations of the patient and the treatment should be extended to two years. The treatment used is that recommended by Moose and the CCG groups, with the exception that a .065 gm. of bismuth is used at start instead of usual 2. gm. Treatment is begun in same manner as if aortic insufficiency were present until patient is calibrated.

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*To be read before Adams County Medical Society.

By use of the vibrocardiogram as recommended by Kountz and Smith of St. Louis, one may, and should, find tracings which represent a departure from the normal. Space does not permit a presentation of the various vibration complexes. In their work tracings were made from the aortic, tricuspid, mitral and pulmonic areas. The curves of total cardiac vibration are recorded on basal rest and on recorded activity. Curves recommended on luetic aortitis cases would be made before and after treatment and compared to normal individuals treated in the same manner, that is, normal patients receiving antiluetic treatment in same manner.

Moore, Danglade and Reissinger from a comparison of clinical and necropsy (material) observations, list seven clinical criteria, the presence of any three of which they thought could be considered as strong evidence for the diagnosis of uncomplicated syphilitic aortitis. These are: (1) roentgenologic demonstration of dilatation of the first portion of the aorta using oblique positions of roentgenkymography, since it appears it cannot rest on the routine posterior-anterior teleroentgenogram and the measurements of the aortic width unless distortion be extreme, (2) increased retromanubrial dullness, (3) a history of circulatory embarrassment, (4) a tympanitic, bell-like tambour accentuation of the aortic second sound, (5) progressive cardiac failure, (6) substernal pain, (7) paroxysmal dyspnea. They feel that the presence of "three or more of these signs and symptoms in a syphilitic patient under 50 years of age, free from mitral disease, and in the absence of hypertension, is strong evidence for the diagnosis of uncomplicated syphilitic aortitis." It is important here to note that these criteria are accepted by the Coöperative Clinical Group.

It might be well to discuss each of these seven cardinal signs or criteria here.

X-ray diagnosis. While stationed at Shreveport I had the opportunity of making an intensive study of syphilitic patients, the case load being always around 2500. The cases suspected of having aortitis were x-rayed and seen later by a cardiologist who flouroscoped them. About 90% of my diagnoses were accepted by him, about 10% were debatable signs or ascribed to other causes. We had some very interesting debates on the subject, but I always accepted his opinion for the results. Retromanubrial dullness (RMD) measurements were made using a pelvimeter to measure the percussed areas. Later the measurements were checked on the x-ray plate (AP views) which acted as a check on the accuracy of the percussion outline. One becomes in time adept at percussing, using a check in this manner. In the majority of cases of early asymptomatic aortitis there was no evidence of aortic dilatation but about 15% of cases did show some dilatation of the aorta. One must keep in mind 1) advanced aortic disease, 2) aortitis with demonstrable signs and, 3) the minimal type which is undiagnosable, except by tissue study. Moore states that 70 to 90%

of patients with late syphilis have uncomplicated aortitis clinically unrecognizable. A recent case study review made by Clark at Vanderbilt and republished in *Venereal Disease Information* of November 1940, showed 2.4% of his case load as having cardiovascular syphilis. This incidence is very low and when we consider the advanced aortic insufficiency cases as being included it is extremely low and suggests the need for a paper on the subject outlining one's individual experience with syphilis of the heart and great vessels. My percentages at Shreveport were about 35% of all male patients (women are seldom affected) with untreated syphilis of over five years' duration. Some of course were early, less than two-year cases, but this was a small group. The recognition of the middle group of demonstrable aortitis cases will raise our percentage of diagnosis. There will always be the minimal undiagnosable group but this group can be reduced in size. The flouroscopic and teleroentgenoscopic evidence of dilatation using the oblique position preferably is therefore acceptable and is valuable as a diagnostic sign of the aorta being affected in the absence of aortic dilatation from other causes.

RETROMANUBRIAL DULLNESS. While increased in advanced cases retromanubrial dullness will be in the majority of cases of early asymptomatic luetic aortitis not found appreciably increased.

A HISTORY OF CIRCULATORY EMBARRASSMENT. This is a rare symptom of early luetic aortitis. Even on exertion dyspnoea is rare.

A TYMPANITIC, BELL-LIKE, TAMBOUR ACCENTUATION OF THE AORTIC SECOND SOUND. This type of accentuated second sound accompanied by a systolic murmur is present practically always, but not to the degree mentioned here. Only rarely is the aortic second sound accentuated to a tympanitic bell-like sound and this is found in late aortitis cases. Vierodt found marked variations in the sounds of the heart in the different valvular areas but found the mitral first sound almost invariably the loudest. He also observed that in patients from 40 to 50 years of age the second aortic tone was usually louder than the second pulmonic. Of greater interest though is studies made on a comparison of the relative intensity of the second sound at the pulmonary and the aortic areas. Creighton found in a study of 1000 cases that up to the age of twenty the second pulmonic tone was louder, from twenty to thirty the two tones were of equal intensity while from fifty years on the second aortic tone was louder. My findings have paralleled those of Creighton and when the aortic second sound is in a patient twenty to thirty-five years of age definitely louder than the pulmonic sound I consider it suggestive of pathology present. When the aortic second sound is accompanied by a systolic murmur and the murmur and sound is accentuated by treatment (Jarisch-Herxheimer) reaction it is an indication of a luetic aortitis. This condition is invariably accompanied by an increase in blood pressure the readings averaging 140-160/90-100. I have never made a diagnosis of asymptomatic aortitis in the absence of elevation of the systolic and diastolic pressure. This consistent type of blood pressure with accentuated aortic second sound is considered a cardinal sign. One might here keep in mind that soft systolic murmurs at the apex and principally at the pulmonic second sound are found in Graves' disease, severe anemia or purely functional in character, do not present a great problem. All my patients are examined for murmurs on expiration in the sitting posture and leaning over. On expiration the lung contracts and the heart sounds are louder. The heart is always examined after the blood pressure is taken as any nervousness or increased activity will make the heart sounds louder. Because most of the pathology of syphilitic aortitis seems to affect the first part of the aorta the systolic murmur should be heard distal to the lesion. Corrigan showed that thrills could be produced by constricting a piece of tubing with water running through it from a faucet. Above the constriction there are no eddies while below the constriction numerous eddies, twists and turns in the current of the stream cause thrills or murmurs. As an anatomical consideration we find that there is attached to the concavity of the arch of the aorta, in some cases, the ligamentum arteriosum (vestige of the dorsal part of the left sixth arch). Between the left subclavian artery and the ligamentum arteriosum there is sometimes a definite constriction of the arch (isthmus aortae) situated opposite the third thoracic vertebra. When the isthmus is well marked it is succeeded by a dilatation, the aortic spindle. A murmur could be anatomically accounted for in this type of anomaly. Pathologically the murmur could be accounted for also by applying Corrigan's principle of the causation of murmurs.

Pathologically syphilitic arterial disease affects all three coats of the vessel. The lesions are gummatous and may appear as nodules on the surface of the artery. There is ultimately scar formation, loss of elastic fibres and fat throughout the vessel causing increased rigidity. There is a great roughening of the lining which is thrown up into irregular folds with nodular swellings. This change is most commonly found beginning at the aortic orifice and generally involving the aortic valves and most frequently involving the arch. The longitudinal rugae found in the intima are quite unlike anything seen in arteriosclerosis. In advanced cases dilatation of all sorts from small saccules to large aneurysms exists. The pathology about the orifice of the coronary vessels is very important as a Jarisch-Herxheimer reaction may cause death. Corrigan's idea applied here certainly can account for the murmurs being present and they *are* always present and variable. It would be most unusual in the light of our pathological knowledge if there were no murmurs in the moderately advanced type of luetic aortitis. These murmurs are always accentuated by treatment, so serial examinations are very important in the recognition of this condition. The diagnosis of asymptomatic luetic aortitis is made by ratiocination. The increase in blood pressure readings may also be accounted for by the known pathology of aortitis.

Progressive cardiac failure. It is so rare as to be ignored in the consideration of asymptomatic luetic aortitis. I saw one case that fibrillated after .2 bismuth subsalicylate had been given at Dallas, Texas, and two weeks later referred to us as a transfer. This might be considered as a fulminating type with advanced pathology involving the coronary ostia with therapeutic shock. Intrinsic cardiac pathology could account for the condition. He was referred as an early latent case, being a young athletic type negro twenty-two years of age. Syphilitic myocarditis is very rare in early cases. I have seen only one case in a 65-year-old patient with secondary syphilis with a primary lesion on his chin who had received x-ray for epithelioma. In this case hypertension, arteriosclerosis and possible infarction could account for his cardiac failure. Both patients responded fairly well under a cardiologist's care.

Substernal pain. No pain is present in this type of aortitis. It, if present, can usually be accounted for by gastrointestinal pathology or disturbances. If there is pain the case is symptomatic syphilitic aortitis and not asymptomatic aortitis. Pain on pressure over the sternum is not present.

Paroxysmal dyspnea. This was never observed in this type and if found with the diagnosis of asymptomatic aortitis would have to be accounted by some other type of pathology and would be the problem of the consulting cardiologist.

The statement is made by Moore, Danglade and Reissinger that "three or more of these signs and symptoms in a syphilitic patient under fifty years of age free from mitral disease, and in the absence of hypertension is strong evidence for the diagnosis of uncomplicated syphilitic aortitis." In regard to this I reiterate that I have never seen a case of luetic aortitis without an elevation of both the systolic and diastolic pressures. I can very readily understand that in minimal types diagnosable only by the pathologist with his tissue examination, gross and microscopic, there can be cases without a rise in pressure. Furthermore cases of aortic insufficiency with the aortic leaflets destroyed give us our highest pulse pressures known.

I saw one case with 160 systolic and 40 diastolic which was amazing in a case of aortic insufficiency in a luetic patient. The high pulse pressure here was compensatory. Also mechanically if you decrease the lumen of a vessel there must be, and is, an increase of work on the heart and an increased pressure is to be expected and looked for. It would throw our known principles of physics out of kilter if this were not so.

Asymptomatic luetic aortitis is one of the intermediary stages between the normal heart and aorta and the advanced state seen in luetic aortic insufficiency. Somewhere the pulse pressure starts to increase but we always seem to see cor bovis cases with well defined aortic valvular incompetence. Because of lack of symptoms we do not see the earlier and intermediary aortitis cases. One does not overnight develop organic lesions causing high pulse pressures.

I have discussed the seven criteria presented by Moore, Dangladge and Reissinger and find that:

Criterion I. Need not necessarily be present and is present only in minority of cases but is acceptable as a diagnostic sign.

Criterion II. Increased retromanubrial dullness is the same as one. Without one you cannot have the other, so criterion II should be included with criterion I. It is present in a minority of cases and in advanced types of aortitis.

Criterion III. History of circulatory embarrassment is not to be looked for and is not explainable except in involvement of ostia of important vessels, vasa vasorium involvement in the vessels themselves, or in rapid narrowing of the aortic lumen with a rapid adaptation on the part of the heart being necessary. This is very unusual.

Criterion IV. The accentuation of the aortic second sound is very important and is a cardinal sign.

Criteria V, VI, and VII are so rare as not to be considered of great importance in this type of asymptomatic luetic aortitis.

Hypertension: This is always present. I consider the literal use of the word here. The pressure is always raised and therefore there must be considered a hypertensive state existing. This is in fact a very important sign and without an increase of pressure I would hesitate to make a diagnosis of luetic asymptomatic aortitis.

So in recapitulation we find that we can have three of the signs outlined present, but only in the presence of increased systolic and diastolic pressures do they mean anything.

In summation the diagnosis of asymptomatic luetic aortitis can be considered and confirmed in the following manner and with the signs mentioned being present.

Signs present:

1. Accentuation of aortic second sound accompanied by a systolic murmur in a patient under 50 years of age.
2. Aortic second sound louder than pulmonic in patients under 50 years of age accompanied by a systolic murmur and principally under 35 where arteriosclerosis does not present a problem.
3. Jarish-Herxheimer reaction with accentuation of the aortic second sound and systolic murmur after first treatment.
4. Increased blood pressure diastolic and systolic with pressures 140-160 systolic and 9-00 diastolic.

Method of examination recommended:

1. Same physician at each examination so as to evaluate changes.
2. Serial electrocardiographs.
3. Serial pulse tracings.
4. Serial vibro-cardiographic tracings.

CONCLUSIONS

1. Under present methods of examination used too many cases of asymptomatic luetic aortitis are missed.
2. A plan of procedure is advanced which can enable one to diagnose all but the minimal types and many of these may be suspected with mechanical examination such as serial pulse tracings and serial electrocardiograms.
3. A patient with the signs presented here certainly could not be considered a latent case of syphilis nor could he pass a reasonable insurance examination yet these cases are missed too frequently by the syphilologist because of too careless and too rapid examinations.
4. The essayist is not posing as an internist or cardiologist but believes the treating physician should consult the internist more frequently.

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The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Mid-South Postgraduate Medical Assembly
Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Northeast Mississippi Thirteen Countians are looking forward to the quarterly meeting in December with more than usual anticipation. The program is marked by outstanding essayists, and several distinguished visitors are promised. Dr. William C. Chaney of Memphis and Dr. J. L. Morgan of Memphis are guest essayists at the scientific session. Dr. Felix J. Underwood of Jackson will be the guest at the banquet.

The Auxiliary will have Dr. David E. Guyton for the highlight of their luncheon. Mrs. H. C. Ricks, president-elect of their state organization, will come with greetings and encouragement. The meeting is back in Tupelo, December 8.

Though covering the largest territory of any medical unit in the state, the doctors of the Northeast Mississippi Thirteen Counties Society seem willing to keep up the meetings as long as possible. The fellowship, the increased obligation to their clientele with its concomitant need for more information, argue the continuance of these local group meetings.

Don't fail to read the article by Dr. Paul de Kruif, the master writer in medical literature for the laity, in the December issue of READER'S DIGEST. This article will fill your mind with hope for increased health assets for the future and cause your heart to swell with pride for our United States of America. The title of the article is ENTER ATABRINE-EXIT MALARIA. It is a most thrilling story of an economical life-saving measure. We will most likely control malaria in the future by controlling the human host.

We were delighted to have a letter from Dr. Frank Acree who is stationed in Columbus, Ohio. Dr. Frank is one of our most competent and progressive men in medicine. He is a member of the American College of Physicians and was at one time the youngest member in this great organization. Where duty calls he will be found.

We are now beginning the department OUR DOCTORS IN THE SERVICE. Please help us to make this of interest. Our hearts are with every doctor in the lines. We should deeply appreciate every one of them. Location, change of address, promotions and letters are desired for the department.

The doctors of Mississippi feel mighty proud of Drs. Underwood and Garrison. Dr. Underwood was elected president of the American Health Association and Dr. Garrison now heads the Southern Medical.

We are indebted to Dr. L. L. Minor, Memphis, Tenn., Rt. 4, for fillers and several contributions to the editorial section.

We shall appreciate a line from our doctors in the service.

We see no compelling reasons, in fact very little reason for abandoning the meetings of our county, regional and state medical associations. The county and regional take only a part of a day and the distance is not long; the state association only about two days a year. These meetings are beneficial and professional. If a vote is called for, our county will vote for a continuation of the meetings.

L. L. M.

From time to time, we hear of towns or cities having a rat killing campaign. Rats damage property and produce in the United States to the extent of about $200,000,000 annually. These rodents effect a larger percentage of the world's population than any other pest in existence. Of course, we know that the rat is also conveyor of disease.

In a rat war or in a world war, we are liable to let our enthusiasm lag and to resume our complacency. L. L. M.

It is appropriate and timely that the exact status of the medical profession during war be published, particularly with reference to the number of physicians in this country at present as compared with the population as a whole.

At present there are approximately 176,000 physicians serving a population of approximately 130,000,000 people or one physician to 738 people. (It has been estimated that a ratio of one physician to 1500 people is not too low to give fairly adequate medical service).

An army of 10,000,000 men will require 65,000 doctors or a ratio of 6.5 doctors for each thousand troops. Add to the sixty-five thousand doctors taken into the army 21,000 who will do no practice for one cause or another and there will be 86,000 not available for civilian practice. This number taken from the total medical population will leave 90,000 available for practice or one doctor to 1,333 population. There are approximately 3,500 deaths annually in the medical ranks, and approximately 5,000 new doctors graduated, or 1500 greater number than the death rate.[*] If only 50 per cent of this number enters practice there will be 750 to take care of the 1,000,000 increase in population or 1 doctor to 1,333 population increase.

These data give a fairly true picture of the status of our profession, and should dismiss from our minds the fear of a physician shortage in this country. This country has more physicians to population by 50 per cent than any other nation. On the basis of world distribution of physicians this country could spare half of its doctors without a shortage.

These data give a fairly true picture of the to economic and industrial dislocation of population. In many rural communities the doctors moved out, usually to the cities, before the war, and since the war began others have volunteered into the army. Industrial plants have grown up over night in certain localities attracting thousands of employees where there are no doctors. These shortages are relative and can be remedied by proper distribution of the medical profession. Many cities are over-crowded with doctors, and can afford to spare 25 to 50 per cent of their number to the armed forces and to the localities where there is a shortage.

L. L. M.

The attendance at the Southern Medical Association held in Richmond was quite good, totaling over thirteen hundred. The interest was the best we have ever seen and the fellowship was as fine. Dr. Pinson Neal of Columbia, Missouri, handled the presidency with ease and ability. Dr. Harvey Garrison, Sr., Jackson, Mississippi, is now the president. He has the ability, the vision and the application to make an outstanding executive.

No decision was reached as to whether we shall hold a meeting next year. This is to be left to the discretion of the executive committee. The A.M.A. is not to be held next year nor is the Southeastern Surgical Congress, or the Mid-South. The American College of Surgeons called off its meetings. Some of the state meetings have already been cancelled for next year.

There seems to be some very good reasons for not having the national meetings, the ones that draw from a large territory, but there is mighty little reason for disbanding the local and state meetings. It is no time for organized medicine to retreat. We must keep medical progress to the front, in the interest of the people. After the war the nations of the earth will look to the United States for medical education. We must not fail them; relaxed efforts now would be a mistake. Our nation must hold on to democratic medicine, and education and organization are therefore imperative. If organized medicine retreats at this time state medicine can more easily take over. Quackery will also take advantage of any retreat from the grounds of meritorious medicine. We can meet the demands of the day and do well the job set before us if we will determine to-do-or-die on the civil as well as the military firing lines. We must keep medical service in liquid form, that it may flow easily where it is needed most.

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[*] According to present plans the medical colleges will graduate an additional 5,000 in three years as a result of the accelerated-step-up in their curricula, thus adding to the number of doctors 20,000 instead of 15,000 during the next three years.

The problem of women's health, impaired in many cases by too-frequent childbirth, is a big issue constantly facing the medical profession, according to the late Dr. Horton Casparis, Nashville, president of the Tennessee Tuberculosis Association at the time of his death.

Many women, through ignorance, are dangerously affecting their own and their babies' health by unwise spacing of children. Too frequently breakdowns followed by serious complications could have been avoided had mothers been acquainted with planned parenthood. Good health is always a desirable thing. It is foolish to endanger health when we know how to avoid it. Now, as never before, good health of our women is an important factor in our national history. Every woman owes it to herself, in the name of good health, to have a practical knowledge of planned parenthood. Information, obtained in coöperation with the medical profession, should be available to women seeking advice. This has been a rather 'tonchy' problem, but we feel inclined to agree with Dr. Casparis.

The annual Southern Tuberculosis Conference convened in Memphis the first week in October with 260 delegates attending. Much was said about the definite progress in vocational rehabilitation of the tuberculosus.

Mississippi is fortunate in leading the South in all phases of tuberculosis work.

Dr. Logan H. McLain of Sanatorium was elected vice-president.

In our article above on birth control, it is plainly in evidence that the birth rate is decreasing from the cause just mentioned and other biologic factors and the increase in longevity and activity accompanping it. Geriatrist will vie with pediatrist in the number of patients. Grandmothers are making good riveters and grandfathers are resuming their work in their respective lines.

Occasionally a book comes to my desk with a friendly inscription from its author. Of course I appreciate them greatly, but I appreciate the expression of friendship much more. Only a few days ago a little volume came bearing an inscirption from a dear friend (not the author). This book is entitled *When Doctors Are Rationed.* I have not read it very critically but I have sketched it through and am convinced that it is very appropriate to the times. The introduction to this book was written by Dr. Nathan B. Van Etten, who was but recently president of the American Medical Association. Dr. Van Etten's conception and analysis of the medical situation is clear and interesting. He justifies the taking of the younger and more vigorous of the doctors into the military service on the ground that the seven million or more of the young men of the nation who will be inducted into service are entitled to and must have adequate and proper medical care. To insure this, perhaps sixty thousand doctors will be required. There are approximately one hundred eighty thousand doctors in the United States. This means that one third of the doctors in the nation will be taken from their regular work and present location. Thus you may see that one-third of the doctors will be requisitioned to care for the medical needs of one-twentieth of the population. Some people, especially some politicians, are complaining that this is unfair to the nonmilitary groups. These complainers do not seem to realize that when men are crowded together and sent into territory subject to epidemic outbreaks of disease and are exposed to shot, shell and gas that their needs are much greater than are the needs of the civilian population. These boys must not be neglected. They are entitled to and must have the best medical care. Nevertheless the burden of caring for the civilian population, one hundred and twenty-five million, must be borne by the old and aging doctors. Many of these have worn themselves down by long and arduous years of service. Many small towns and sparsely settled rural districts have suddenly mushroomed into large cities and densely populated sections by reason of defense work and manufacturing interests. Hospitals have suffered depletion of their staffing, both as to doctors and nurses. Increased need and decreased staffing will result in both harder work and poorer service. Thus it may be seen that some form of rationing must be considered. To meet this emergency more work will have to be done in the offices and out clinics. There will probably be more self treatment than previously was the case. This is to be regretted very much, since home treatment is, as a rule, poor treatment. This is true since no treatment can be good unless correct diagnosis has preceded treatment. Again, it is almost certain that a large opening for quacks and quackery will result from this shortage of doctors. We already have sugar rationing, gas rationing, tire rationing, coffee rationing, and it is probable that every necessary commodity will be rationed soon. So we need not be surprised if rationing of doctors comes too. Whether this comes about or not, it is very certain that the old-time relation between individuals, families and doctors will be largely disturbed. Both individuals and families will be forced to select new doctors with whom they are not so well acquainted. There will be a scarcity of specialists and more general use or employment of general medicine men. This will necessitate a closer study of our cases and more pains to keep posted along lines that many of us may have neglected in the past. More general medicine men will be forced to do surgery than was the case. Again there will not be so much surgery done as before the war. This, perhaps, will be well, according to my thinking, much too much surgery has been done during recent years. It seems that nearly all recent graduates have been inclined to try to make surgeons of themselves. This is easy to understand since many young people are intrigued with the spectacular things of life and tend to go against the least resistance. Again the fees are better for surgical work and, perhaps, are more frequently paid, promptly. Perhaps this trend may change somewhat as a result of the evident need for more doctors in small towns and country districts increases. Just what conditions will be after the end of this war and world change, no one can foresee. But I fear that it all may sum up in mass practice or state medicine in some form. Since this danger threatens, it behooves us to be alert and keep our defense lines intact. Our medical societies and organizations are more important and necessary than ever before. There is some tendency to neglect these, even now. The larger national organizations will necessarily suffer to some extent. It will be difficult-- even impossible—for full and regular attendance on these meetings, because of distance, gas and tire restrictions and doctor shortages. Yet there is no reason at all why local, district and state meetings should not be held on schedule time even though the attendance should be somewhat less than during normal times. And there are many and good reasons why we should make extra effort to be present at these meetings—first, to keep our organization intact, but mainly to keep abreast of advances in medical science. There can be no doubt that the exigencies and experiences of the war will bring some very worth while developments and discoveries. So we should stay on the alert and be ready to evaluate and apply these as soon as they are made known. So let me urge every doctor to make a special effort to attend all societies with which he may be affiliated, especially the district and state meetings that will convene within a few months.

—G. S. B.

We of Amory and Monroe County feel that we are fortunate in that we have succeeded in securing the location of a competent surgeon in the person of Dr. James E. Jones, formerly of Texas.

News and Comments

THE CEDARS

The one-time home of Mrs. Francis Long Taylor, the wife of Dr. Marcus Taylor.

In 1492 Columbus sailed the ocean blue. In 1842 Dr. Crawford W. Long made a discovery quite as important perhaps to the human race when he first used ether as an anesthetic. Anesthesia conquered pain, thereby accelerating the progress of surgery. The urgent demand for relief through surgical procedures enabled necessity to discover the cause of infection and to perfect the means of asepsis. What a revolution in human affairs we have seen within the last one hundred years. To a country practitioner in Georgia goes the great honor of being the first to use ether anesthesia. It seems to have been given then by the drop method and unto this day for the majority of major operations ether by the drop method is the best and the safest in the hands of the average doctor.

The above building with some changes perhaps, in Booneville, Mississippi, was owned for many years by one of the daughters of Dr. Crawford W. Long, Frances Long Taylor, the wife of Dr. Marcus Taylor. Dr. Marcus was the son of Dr. William Taylor, a very outstanding practitioner of northeast Mississippi. He was a surgeon in the United States Army. We understand that he attended Ole Miss, but took his medical course at West Point. The body of Dr. Marcus Taylor rests in the Booneville cemetry. He died before his father and his wife. Miss Emma Long, his wife's sister spent about twenty years in Booneville. Older residents recall the two sisters as regular attendants of the Methodist Church and interested in other affairs of the town. After the death of Dr. William Taylor, Mrs. Taylor sold this property to the Shinault family in whose name it is still held. Miss Long and Doctor Taylor were blood relations before their marriage.

THE MADISON RURAL SANITARIUM AND HOSPITAL

For thirty years we have had the pleasure of having the doctors of Mississippi refer their patients to the Madison Rural Sanitarium and Hospital, especially those patients who need a complete rest, a special diet, and treatments in hydrotherapy and massage.

During the past few years several additions have been made to the hospital and sanitarium. The complete remodeling of a twenty-eight room wing has been finished and a large number of the rooms have been redecorated and remodeled. Along with these improvements, two separate cottages have been constructed for psychiatric patients and we have added a consulting psychiatrist to our staff and treatments are being given for nervous disorders. These treatments, along with hydrotherapy and massage, have proven satisfactory, and the location and plan of the institution make it ideal for this type of patient.

During this all-out effort many patients, not able to obtain transportation to go long distances, are finding it to their advantage to stay close to home. The nearness of the Madison Rural Sanitarium and Hospital makes it accessible for Mississippi patients.

Often physicians whose patients have failed to improve recommend that such patients leave their business affairs and seek treatment in such an environment as we have here. This is especially true for patients suffering from chronic ailments.

The Madison Rural Sanitarium and Hospital offers an opportunity for physicians to recommend this type of treatment. The course of therapy given usually brings favorable results, especially for those patients suffering from diabetes, arthritis, neuritis, obesity, etc. An occupational therapy department is provided for the patients.

The institution is located close to many of the landmarks of Tennessee. We invite the inquiries of physicians and will coöperate in every way possible with any patient who is recommended to us. We will be glad to mail further information upon request and also a catalogue of the sanitarium and hospital.

WOULD CONTINUE MEETINGS

Resolved:

1. That it is the judgment of this society that our local and state meetings should continue as per schedule, at least for the time being.
2. That we go ahead with our preparations for entertainment of the Mississippi State Medical Association next May.
3. That a copy of these resolutions be sent to the official journal, the MISSISSIPPI DOCTOR, for publication.

These resolutions were read at the last meeting of Central Medical Society and adopted by the society unanimously.

DR. DICK McCOOL RESUMES PRACTICE

It is with general Mid-South interest that Dr. Dick Cauthen McCool, for seventeen months absent from his office, has resumed his professional practice. His office address, 899 Madison Avenue, Memphis, Tenn., is the same. He is one of the few Mid-South men specializing in nervous and mental diseases.

UROLOGY AWARD

The American Urological Association offers an annual award, not to exceed $500, for an essay (or essays) on the result of some specific clinical or laboratory research in urology. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years.

Essays must be in the hands of the secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tenn., on or before March 1, 1943.

GNAWING AT AMERICA'S PRODUCTIVE POWER

Paul de Kruif

In today's world so somber with lies, bloodshed, and the fear of death, there are still men who dare to draw blueprints for an honest. strong, gentle, laughing mankind of the future,

What has given them courage for such planning has been victory like that party won against tuberculosis. Now the backs of all death fighters—not excepting those against the white plague—are to the wall. The cell is for more death, and more, and we are all too likely to forget that, to kill our enemies efficiently, we cannot relax our fight for life. This is made especially plain by the condition of our battle against tuberculosis.

This year bids fair to find our vaunted conquest of the disease at a standstill for the first time since World War I. The sinister sickness is beginning to flame high again. It gnaws at the vitals of America's productive power. It kills more and more Americans under the new strain of work in defense of our nation's life. The year 1940 saw an upsurge of the TB death rate in many of our leading cities. What may happen if we relax our war against this form of mass murder is shown by ominous warnings from across the ocean. In 1939, England, Wales, and Scotland were pretty well satisfied with only 29,000 annual deaths. Then came *their* strain of all-out war production effort. The white plague's toll, 1941, was well up in the 30,000's on that embattled island.

Here's the exquisite manner in which the white death pounces first of all on those under strain of the fight for national existence—it's shown by the fact that against tuberculosis the efforts of our British cousins have failed. This is one sickness where deaths show an upsurge. Even deaths by bombing have been curbed. England is a healthier nation than it was before the war began, in spite of all its dislocations and deprivations healthier — excepting for tuberculosis.

That the strain of war production does not itself mean the inevitable return of the white plague, is proved by the brilliant success of Detroit's fight against it. In that city, long before Pearl Harbor, the strain of industrial production against the world's would-be destroyers was already intense and terrible. In Detroit the conditions of life are lovely—for the TB microbe. Yet here the curve of the white death is going steadily downward, in spite of housing conditions that are infamous, that are not fit for dogs, much less humans.

Detroit has driven its death rate almost down to that of the nation.

How has the city taken the lead in the nation's TB fight? By doing what could be done in every city and locality, every state in our country. Its men against death have no secret weapon. But, long ago, by the end of the 1920's Detroit citizens saw to it that there were ample beds to house the tuberculous sick. Then its physicians and public health men organized to find those infected. And, having found them, by mass use of every form of active treatment including the most modern, they began an unprecedented mass-curing of tuberculosis, on the simple and absolutely sound idea that a cured man cannot give the disease to others.

If Detroit had any special—if not secret—weapon at all, that weapon was money for the death fight.

It is the money, given so ungrudgingly by millions of Americans, since 1907, to the Christmas Seal Campaign of the National Tuberculosis Association, that has been the most powerful single factor in our half-successful fight against the white terror.

This year, with the grim need for us to keep our men on the industrial front in top physical condition, and with their peril from tuberculosis greater because of the strain under which they work, it is especially important that all of us do our utmost, buying Christmas seals with every spare nickel, dime and dollar.

Our Doctors in the Service

Major L. L. McDougal, Jr.

Luther Love McDougal, Jr., son of Dr. and Mrs. L. L. McDougal, Sr., of Booneville, Miss., recently received an advancement to the rank of major at his post in the Station Hospital, Fort Sill, Okla., having left his practice at Paris, Texas, where he was Group Clinic pediatrician and had charge of the Griffith Children's Memorial Hospital for three years. He gave up his work to volunteer in the Army Medical Corps in January 1941.

Major McDougal, 33, received his B.S. degree and medical certificate from the University of Mississippi in 1931, and his M.D. from Vanderbilt University, Nashville, Tenn., two years later. His internships at Vanderbilt Hospital, at Willard Hospital, New York, at Babies' Hospital, New York, at Rhode Island Hospital, Providence, and at Lying-In Hospital, Providence, covered a period of four years, during which time he received excellent preparation and experience for his specialty, rotated with medicine, surgery and gynecology. At Providence Lying-In Hospital he delivered four hundred babies.

Major McDougal married Miss Dorothy Atkinson of Providence, R. I. They have two children, Joan, six, and Luther Love, III, four.

He is the second of three sons of his Booneville parents. The older brother, Dr. Myers McDougal, professor of law at Yale University, at present is spending four days of each week in Washington, D. C., aiding with work in the First Assistant Attorney General's office. His younger brother, also in the service, is an aviation instructor of Army Air Corps cadets at the flying field in Memphis, Tenn. And his father, for thirty-seven years a general practitioner, is still going just as hard as he did when he "was putting those boys through school." He is a past-president of his local society and the Northeast Mississippi Thirteen Counties Society, and a former member of the State Board of Health. Mrs. McDougal, active in medical auxiliary work, has been president of the Northeast Mississippi Thirteen Counties Auxiliary.

NOTE: Names and information concerning Mississippi doctors in the service are solicited for this department. Your cooperation will be greatly appreciated. Ed.

FROM NATIONAL TUBERCULOSIS ASSOCIATION

Give me health and a day and I will make the pomp of emperors ridiculous.

—Ralph Waldo Emerson

There can be no such thing as chronic pulmonary tuberculosis without a first infection. However, it is not usually the first infection that is important—what matters most is the subsequent superinfections and reinfections which should be guarded against in the infected group. David Zachs, M.D., Jour. of School Health, June, 1942.

Do not forget that of all the countless remedies, rest, alone, has stood the test of time. Gerald B. Webb, M.D.

Tuberculosis already appears on the increase in the warring nations in the second world conflict. No single cause is apparent. All the factors concerned in the other world war again operate. Malnutrition is known to be serious in certain countries. Esmond R. Long, M.D., Amer. Rev. of Tuber., June, 1942.

Tuberculosis remains the most deadly saboteur in our midst. Sixty thousand Americans will perish by the disease this year. C. M. Wylie, Mich. Tuber. Assn.

YOU CAN'T TAKE IT BACK

The Persian sage and poet wrote nothing more impressive than the lines penned more than eight hundred years ago, when he pictured the fateful moving finger which, "having writ," moves on to return no more. Neither poetry, nor wit, nor tears can lure it back; not even half a line, not so much as a word may be cancelled; what has been recorded is as irrevocable as Time itself. There is something terrifying in this and even if we don't shiver when the Honorable A-1 bawls for the record, most of us know of many things written, said, and done in our own lives which we would gladly recall on purely ethical grounds, if for no other reason.

It is not so with the thoroughbred politicians, including of course the dictators. If they had to revise what has gone on the blackboard, a window washer's bucket and mop would be needed. The moral of all this might be that if your skin be thick enough and you wear gloves so that your finger prints can't be recorded, you don't need to worry about taking it back. All you need be concerned with is the technic of spreading it on. Then you can hope that history will do you no injustice.

Deaths

Dr. Horton Casparis, 51, Nashville pediatrician, was found dead in bed the last morning of the meeting of the Southern Medical Association in Richmond, Va., November 12. Death was attributed to a heart attack.

Retiring Council member of the Southern Medical Association, Dr. Casparis was also president of the Tennessee Tuberculosis Association, and had been professor of pediatrics at Vanderbilt University since 1928. He was a fellow in the American College of Physicians, held many memberships, and had written many articles concerning tuberculosis in children, allergy, and various aspects of the mental health problems in children.

Funeral services were held in Nashville.

He is survived by his widow, Frances Kelley Casparis, a son, Anthony Drake, and a daughter, Margaret Yvonne, of Nashville, Tenn.

Dr. Benjamin Clayton Arnold, 53, for the past 29 years one of Jackson's prominent physicians and surgeons, died suddenly November 13.

The son of the late Dr. and Mrs. John M. Arnold, he was born in Henderson County and moved to Jackson, in his earlier years. He was graduated from Jackson High School in 1908 and completed his medical work at Vanderbilt University in 1913.

After serving in the Medical Corps of the Army during World War I, Dr. Arnold returned to Jackson, where he practiced and began his specialization in urology. He received wide recognition for his work in that field.

He was secretary of the Madison County Medical Society for a number of years and had served as president. He had also been president of the Tri-State Medical Association and was prominently identified with the Southeastern Urological Association.

He was a member of the Shriners, Elks and Masonic Lodges and had belonged to the American Legion and the Jackson Exchange Club.

He is survived by his wife, Mrs. Eleanor Everett Arnold; two brothers, Hugh G. Arnold and Dr. Carl Arnold, and a nephew, all of Jackson.

Dr. C. P. Thompson, 63, Greenville physician, died in his sleep October 15.

A native of Independence, Miss., he was graduated from the Chicago College of Medicine and Science, Chicago, Ill., in 1904.

Dr. Thompson engaged in the practice of medicine in Greenville for 22 years, going there from Merigold, Miss.

He leaves his widow; one daughter, Mrs. W. C. Keady of Greenville; three brothers, Albert Thompson of Whitehaven, Tenn., Reed Thompson of Olive Branch, and Earl Thompson, of Drew.

Dr. William H. McWhorter, 84, practicing physician in Morton for nearly 30 years, died at his home in Burns, October 21. Funeral services were held from the Homewood Methodist church.

He is survived by three daughters: Mrs. Eran Currie, State College, Mrs. Geneva Berrick, Hattiesburg, Va., and Mrs. Homer Fikers, Lake; two sons, J. D. McWhorter, Monroe, La., S. N. McWhorter, Weslaco, Texas; two sisters, Mrs. Alma Windham, Pulaski, and Mattie McWhorter, Morton, and two brothers, W. L. McWhorter, Forest, and O. L. McWhorter, Summerland, Tenn.

Funeral services were held October 16 at Ebenezer Baptist Church in Holmes County for Dr. M. H. Roberts, 76, who died at his home at 1007 Mississippi Avenue, Greenwood.

Dr. Roberts was a native of Holmes County, born at Franklin, the son of Mr. and Mrs. Finis H. Roberts. He had practiced medicine at Ebenezer for 40 years and moved to Greenwood five months ago when ill health forced retirement from active work.

He was graduated from Memphis Hospital Medical College in 1901.

He was prominent in civic and county affairs and served as deacon of the Baptist church at Ebenezer for 25 years.

Dr. Roberts is survived by his wife, Mrs. Mary Harris Roberts, Greenwood, a daughter, Mrs. Beverly D. Evans, Savannah, Ga., and a sister, Mrs. George Schnell, Placerville, California.

Dr. James E. Wallace, 65, physician-surgeon died at his home in Biloxi, October 29, after a brief illness. He was born in Natchitoches, La., and was a graduate of Tulane University and a captain in the World War I.

He is survived by his widow, a son, James Wallace, 6, three brothers, Dr. George Wallace, Biloxi; Dr. Buck Wallace, Alexandria, La.; John Wallace Natchitoches; a half brother, D. Sebournnem, McLane, Texas, and two sisters, Mrs. Alney Austin of Biloxi, and Mrs. J. W. Smith of Lecompte, La.

ERRATUM

It was reported last month in this section that Dr. William Green died at Winter Park, Fla. The Doctor Green who died at Winter Park was Dr. Boley John Green, formerly of Drew.

Dr. John William Green is with the Veterans Administration Facility at Downey, Ill.

Mississippi State Medical Association

Organized 1867 **Next Meeting: May 11, 12, 13, 1943**

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COMMITTEES

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Henry Boswell, Sanatorium
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Budget and Finance:

J. P. Wall, Jackson
J. B. Howell, Canton
Gilruth Darrington, Yazoo City

Constitution and By-Laws:

D. W. Jones, Jackson
W. H. Frizell, Brookhaven
W. W. Crawford, Hattiesburg

Exhibits:

Dr. D. W. Jones, Jackson
Dr. Leon S. Lippincott, Vicksburg
James Grant Thompson, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet	Third Tuesday 7:30 p.m.
Alcorn	D. W. Hamrick, Corinth	R. H. DeJarnette, Corinth	Third Friday, 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central Medical	R. B. Austin, Forest	James G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Marks	Guy R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	F. M. Acree, Greenville	Sec. Wed. April & Oct., 2 p.m.
DeSoto	C. W. Emerson, Hernando	L. L. Minor, Memphis, Rt. 4	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-War.	Hugh Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	C. R. Senter, Byhalia	H. Phillips, Holly Springs	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	Stanley A. Hill, Corinth	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	J. M. Smith, Magnolia.	V. S. Holmes, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr.,Hattiesburg	3rd Tues., Mch., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., Mch., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Fields, Centerville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

An excellent article on the "NEWER CONCEPTS IN THE TREATMENT OF BURNS" written by Lieutenant, junior grade, Theodore A. Fox, Medical Corps, U. S. N., appears in the July 1942 issue of the U. S. Naval Medical Bulletin.

The treatment is roughly divided into three major groups of therapy, i. e.; tannic acid spray with silver nitrate, the triple dye method, and the sulfonamides.

The tannic acid method which was reintroduced by Davidson in 1925 proved to be good inasmuch as we had no better method at that time, but the impression given by the writer is that this method has been completely overshadowed by the triple dye method and the sulfonamide method. Excellent reasons are given and the tannic acid treatment is discussed to show where it falls short. One reason is that one cannot detect spots of infection under the black eschar, and another is that the tannic acid solution is not bactericidal even when silver nitrate is used with it.

Aldrich worked out a combination of dyes; i. e. gentian violet 1 per cent, brilliant green 1 per cent, and neutral acriflavine 1/10 per cent. This combination of dyes was found to kill both gram negative and gram positive organisms, and though somewhat messy to use proves very effective. It had an added advantage in that the eschar develops a soft moist spot over any area of infection that develops under it. The eschar is cut out over this area and the area cleared up and re-treated. The solution is non-toxic and the eschar is flexible, and does not produce near as much scarring as the old tough tannic acid spray method did.

The sulfonamide method in use today was introduced by Pickrell of John Hopkins in August 1941. The solution is one of 3 per cent sulfadiazine in a solution 8 per cent triethanolamine (tri eth an ol amine). It has a pH of 7.7 and is clear. It develops a faint yellow tinge if stored in clear glass bottles. This does the solution no harm but can be prevented by storing in colored glass bottles. The solution is odorless, has a bitter taste and does not stain. Normal tissue is not affected by the drug. It penetrates tissue and can be detected in the blood within a few hours after spraying on the burned area. After the eschar forms the blood level approaches a minimum and remains about constant. Twenty milligrams per cent is the maximum for safety, and if the blood level does not go above fifteen per cent. no damage can happen to the kidneys.

The actual treatment with any one of the above described methods consists of two parts, i. e., (1) treatment of, or the prevention of shock, (2) treatment of the burn itself.

The shock is the same as any other primary shock produced by trauma, or surgery, and is treated and under control before treatment of the burn itself is started.

Outline of treatment of the burn itself:

1. Triple dye method:
   a. Treat the shock
   b. Spray once every hour for eight hours
   c. Keep heat cradle over patient (not over 90 degrees)
   d. Watch eschar for soft moist spots
   e. Cut out soft spots, sop up with sterile sponges, and spray
   f. Around orifices where infection is prone to occur due to contamination, the areas may be treated with saline spread until infection has cleared, and then resprayed.
   h. No dressings
   i. Eschar comes off in one to three weeks with surface underneath more or less normal skin, grafts are rarely needed

except when burns are third degree.

2. Sulfonamide method:
   a. Treat shock
   b. Heat cradle, spray on every hour for first 24.
   c. Spray on every two hours for second day
   d. Spray every three hours for third day
   e. Spray every four hours for fourth day. By this time a soft, translucent, thin eschar has formed
   f. Encourage motion, and if not too extensive allow patient to be up and about. Motion prevents contractures.
   g. In about ten days the eschar begins to loosen from the epithelium underneath. Application of the mixture or saline compresses speeds the process. In third degree burns allow the eschar to remain in place for three weeks. This type may have to be grafted. This is done after saline dressings have been applied for several days.
   h. Ambulatory patients, i. e., those treated and sent home after 24 to 48 hours, are sprayed frequently during their stay in the hospital and the burns covered with sterile vaseline gauze or an ointment made up of five per cent sulfadiazine and eight per cent triethanolamine. In these cases no eschar forms and the patients are seen every twenty-four to forty-eight hours and the burns are sprayed and redressed with the vaseline gauze or the ointment. This is repeated until the burn has healed.

PEDIATRICS

"Secretion of Ingested Sulfanilamide in Human Milk in the Urine of the Nursing Infant—Joseph, Samuel, Paxon, and Newlin Fell Hepburn and Alan Newton Rogers—Archives of Pediatrics, 59: 413 (July) 1942.

The present study was prompted by the sudden death of a 10-day-old, nursing infant whose mother was receiving sulfanilamide as a therapeutic agent. The question arose whether the sulfanilamide was secreted in the breast milk and ingested by the infant.

"Breast milk was collected from a lactating woman who was receiving sulfanilamide therapy." Free sulfanilamide was determined in the breast milk of the mother, who was receiving that compound continuously, and also in the urine of her nursing infant. In a final series of experiments, the milk was clarified by means of alumina cream according to Welker and Marsh and the sulfanilamide (free and total) determined essentially by the procedure of Marshall.

The following conclusions were drawn from these experiments.

"When sulfanilamide is administered to a lactating woman with a nursing infant, the drug appears in the milk of the mother and in the urine of the infant, in both the free and the conjugated form."

"The sulfanilamide continues to appear in the breast milk for several days after its administration has ceased."

"No distinct, uniform evidence was obtained of an increased concentration of the drug in either the breast milk or the infant urine with an increase in the period of medication."

"When the lactating mother was given a daily dose of 25 grains of sulfanilamide, the mass of sulfanilamide ingested daily in the breast milk by the infant was not of the magnitude of a therapeutic dose."

"The infant was able to convert sulfanilamide into its conjugated state."

"Some of the infants were able to excrete the total sulfanilamide in the urine in a higher concentration than they ingested it in the breast milk."

"The therapeutic does of sulfanilamide for an infant is 0.3 grain per pound of body weight daily; so a nursing baby weighing 7.5 pounds would be given 2.25 grains, or 146 mg daily. Administration of sulfanilamide to a well, lactating mother in a daily dosage of 25 grains would cause the nursing infant to receive in the breast milk not over one third of the dose of the drug for an infant. Since less than one half of the drug in the milk is in the free state, this mode of administration to the infant would not be a desirable therapeutic procedure. Also if an ill, lactating mother is receiving sulfanilamide therapy, her milk secretion usually is deficient as a result of her own illness, and supplemental feeding of the infant is necessary. Accordingly, the volume of breast milk and the mass of sulfanilamide ingested by the infant are diminished."

Comment

It is a little difficult to believe that an infant would get a sufficient quantity of any of the derivatives of sulfanilamide to cause any serious trouble. I am rather inclined to think along with the authors that there would be little liability to the infant where the mother is taking sulfanilamide or any of its derivatives.

PUBLIC HEALTH

THE TRUTH ABOUT TEETH (A series of recent articles appearing in the J. A. Dent. Assn., and arranged in booklet form by the Mississippi State Board of Health for distribution by physicians, dentists and health officers.)

These articles, written by leading dentists, endeavor to give modern conclusions concerning dental care of ante partum patients, preschool and school children, treatment of irregularities of teeth and oral diseases. The dentist is interested in the effect of neglect, infection, or loss of teeth on a person's general growth, development, and health.

Dental research work shows that good nutrition from birth to eight years of age is very important in building well-formed teeth. The effect of an adequate diet on caries is unknown. The cause of caries is also undetermined. It is conceded, however, that the use of candy, gum, pop, soda and other sweets is associated with dental decay.

The child should begin to visit the dentist around two and one-half to three years of age. Tooth brushing should begin at eighteen or twenty months with a small, soft toothbrush. Ordinary baking soda makes an inexpensive and effective dentifrice.

The real aim of the dental program is prevention of early loss of teeth—both deciduous and permanent. Lost teeth cause many troubles including the shifting of the remaining teeth, malocclusion, facial deformities, malfunction, and pyorrhea.

The soft tissues of the mouth probably reveal more information concerning sickness and health than any other portion of the body. Pyorrhea or any of the other diseases classed under the heading of periodontoclasia cannot be cured through any aid from the natural resources of the body, by any known diet or by the addition of vitamins and minerals to the food.

State Board of Health

Felix J. Underwood, M.D.

EFFICIENT LOCAL HEALTH WORK

Time and again it has been demonstrated that the most effective medium through which public health work may be rendered is the local health department. Several counties in Mississippi in late years have won national distinction for their outstanding programs and achievements in public health. At the same time, they have contributed much to progressiveness in other fields by making the areas in which they function more attractive places in which to live and the citizenry more able to participate in community advancement through protection against preventable diseases.

As a good example of efficient local health administration, let us take Jones County, Mississippi. Completing its fifth year of service at the close of 1941, it has just released a report covering its activities. The work of this department is financed by the Jones County Board of Supervisors, the City Commissioners of Laurel, the Mississippi State Board of Health and the Commonwealth Fund. Total cost of public health services rendered during 1941 was 75.1 cents per capita. Appraisal of the health department's activities by the State Board of Health and the Commonwealth Fund showed an achievement score for 1941 of 759 points out of a possible 1,000. This is a gain of 307 points since its first year of operation in 1937 and places the program of the Jones County Health Department among the best in the nation.

Its fifth annual report calls attention to the following public health services rendered:

Communicable Disease Control

Communicable disease control is the first function of a public health program, therefore the health department is ever alert to put into effect whatever measures are necessary for control of these diseases. Such measures include: (1) noting the occurrence of diseases as they are reported so that precautions may be taken to discover source and prevent spread; (2) instituting a thorough-going program of community sanitation; (3) making use of measures to increase the resistance to disease in the population; (4) increasing the public understanding and awareness of communicable disease through education; and (5) providing laboratory and diagnostic facilities for determining diagnosis.

Immediately upon report of a case of communicable disease, the health department investigates and takes the necessary steps to quarantine the case and all contacts. Investigation of source and possibilities of spread follows without delay. The family of the case is instructed as to proper isolation and nursing care of the patient. A complete epidemiological record is made and any necessary specimens collected for laboratory diagnosis. Subsequent visits are made by health department personnel until the patient is well and released from quarantine.

The downward trend in those diseases for which control measures have been instituted is encouraging. There has been an increase in reported cases of tuberculosis, scarlet fever, syphilis, and hookworm disease; however, it is felt that this increase has been due to better reporting and earlier case finding and not from a real increase in incidence.

Smallpox and Diphtheria

The percentage of the preschool population protected against diphtheria increased from 28.1 in 1937 to 70.9 in 1941. Smallpox vaccination is not compulsory for children entering school in Jones County, however the health department has succeeded in getting parent coöperation in many instances by pointing out that sooner or later a college, industry, military organization, or other agency will require such protection and if it is received during childhood the reaction is usually less severe than in an adult. Parent coöperation in the immunization program is not yet 100 per cent but has improved since 1937.

Venereal Disease Control

The war effort has brought home more forcibly than ever before the necessity of venereal disease control for maximum efficiency in any mass undertaking. In Jones County, during 1941, the two local selective service boards referred approximately 200 selectees to find civilian contacts suspected of having syphilis or gonorrhea and to examine and put them under treatment in order to protect both the military and civilian populations. During the year the health department accepted for treatment 910 cases of syphilis and 60 cases of gonorrhea. For the 910 cases of syphilis treated, a total of 1,242 familial contacts and 254 extra-familial contacts were reported. Fifty-five per cent of these contacts were examined and two-fifths of them were found to have syphilis. Legislation put into effect early in 1942 now enables enforcement of regular attendance at clinics once treatment is begun. Persistent and continuous follow-up by health department personnel is usually necessary to effect cure in a majority of the cases.

Tuberculosis Control

The death rate in Jones County from tuberculosis has fallen from 68.6 per 100,000 population in the 5-year period 1921-1925 to 47.2 in the 5-year period ending with 1940. The death rate for 1941 was 37.9 compared to 46 for the state as a whole. Of the 19 deaths which occurred in Jones County from this cause in 1941, 7 were white and 12 were colored.

Because of the difference in the problem in the white and colored races, it is of interest to note that of the individuals examined and x-rayed in tuberculosis clinics during the year, 178 were white and 246 colored. Of the 72 active cases receiving nursing service, 30 were white and 42 were colored. During the year, 24 cases were treated at the state and other sanatoria; of these, 17 were white and 7 colored. Of the 15 new cases sent to the Sanatorium in 1941, 8 were white and 7 colored.

Due to the difficulty of getting many active cases admitted to the State Sanatorium, a program of pneumothorax therapy was instituted in the county in 1940. A local physician has taken special training in such treatment, and after the initial collapse is made by a surgeon from the Sanatorium, he administers the refills at the local charity hospital. Making this treatment available locally to patients unable to get admission to the Sanatorium has given them the advantage of an excellent type of treatment for tuberculosis and has effected a recovery much sooner than might otherwise have been possible.

Nursing service for the care of tuberculosis cases has shown a marked increase, a total of 790 visits having been made in 1941. There was an increase in the number of examinations and x-rays made at the diagnostic clinics. It is due to the increased case finding program and early diagnosis of active cases that the death rate from tuberculosis has been reduced in Jones County.

Maternity Service

The maternity program conducted by the health department has been primarily confined to public health nursing service, to which the nursing staff has devoted one-fourth of its time. Midwife cases are referred to the health department for medical examination, and if the patient is found normal she is allowed to continue with midwife service; if any abnormality is found an effort is made to get her under the care of a physician during the antepartum period and at time of delivery.

Public health nursing service is offered to physicians' cases and midwife cases alike. The service consists of visits during the antepartum and postpartum periods, and is primarily a teaching procedure. On the first visit the nurse takes the history of past medical, surgical and obstetrical experiences and obtains a specimen of blood for a serological test for syphilis. A specimen of urine is collected and the blood pressure is taken. Objective findings are noted, such as edema, varicose veins, and other unusual conditions. Inquiry is made on each visit of subjective symptoms such as nausea, headache, pain, or bleeding. If the patient is under the care of a physician, a written report is made to him, stating blood pressure, urinalysis findings, and all unusual symptoms or signs. If the condition is acute the nurse advises the physician by telephone or in person.

Most patients are visited in the home, but many colored antepartum cases are seen in groups, either in the home or in one of the four health centers. Uncomplicated cases are visited monthly and all are taught simple maternity hygiene and are advised how to plan the baby's layette, and what to prepare for delivery; and all are urged to have a thorough medical examination early in pregnancy.

The percentage of births under health department antepartum nursing supervision increased from 8.3 in 1937 to 29.7 in 1941, and the percentage with such supervision having medical care increased from 38.9 to 86.4.

Nursing service to postpartum cases has likewise improved, with five times as many cases being under nursing supervision in 1941 as in 1937.

The health department has furnished sterile obstetrical kits to the physicians for use in their home deliveries. These kits include sterile surgical gown, cap, mask and gloves, as well as sterile sheets, towels, cotton and gauze sponges, pads, cord dressings, and two enamel basins. During 1941, such kits were used in 289 home deliveries.

Infant and Preschool Service

There has been a considerable increase in health department service to both infants and the preschool group. The percentage of infants admitted to medical service increased from 15.4 to 32.6 during the 5-year period; and of preschool children from 3.9 to 10.4. The number of preschool children receiving nursing service increased threefold. The percentage of infants receiving such service rose from 3 per cent in 1937 to 43.1 in 1941.

In each of the six nursing districts in the county, there are held one or more nursing conferences, usually weekly. Individuals are referred to these clinics at stated periods and an effort is made to have a physician in attendance at least once a month to provide medical service. There are numerous advantages in having an established base to provide consultation service for mothers and immunizations for children.

In an effort to reduce further the neonatal and infant death rate in the county, the health department with the approval of the Jones County Medical Society, began a program in June 1941 to furnish vitamin K in tablet form for use by physicians and midwives at deliveries. Since that time an effort has been made to have every mother and newborn infant in the county receive vitamin K, which noted medical authorities believe will prevent deaths of newborn infants from hemorrhagic diseases when administered properly. The experience of the health department in the use of this prophylactic is significant. Of the total of 696 births, the mothers received the vitamin K in 450 instances. For the 23 stillbirths which occurred during this period, the mothers received the vitamin in 6 cases, and in 17 did not receive it. This gave a stillbirth rate of 13.3 per 1,000 total births for those receiving it and a rate of 69.1 for those who did not receive it. In the group of 673 live births, 504 of the babies or the mothers, or both, received vitamin K and 169 did not. There were 24 neonatal deaths: 17 in the vitamin K group and 7 in the other group, giving death rates of 33.7 per 1,000 live births for the group getting vitamin K and 41.4 for the group not receiving it.

To reduce the number of deaths of premature infants the health department has four incubators and 50 premature jackets. These incubators and jackets were not available until the latter part of 1941, but were used a number of times before the end of the year. They are available for use by all physicians and midwives in the county.

* * * *

In addition to the foregoing, the Jones County Health Department conducts a well-rounded program of school health, a sanitation program of vital importance to community well-being with special emphasis on water, food and milk supplies and general environmental sanitation, and gives special attention to health education in order that the citizens of the county may reap the full benefits of present-day health and medical facilities.

Thus it will be seen what an important community asset a full-time local health department can be. Its efficiency increases as advances are made in the medical and public health sciences and new weapons are made possible for disease prevention. Today people realize more than ever before the value of and necessity for the full-time local health department, as is evidenced by the growing number of counties which have been organized in recent years. The invaluable protection afforded by such services should be the inherent right of every Mississippian or American citizen.

Woman's Auxiliary

TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. V. B. Philpot Houston
President-Elect	Mrs. H. C. Ricks Jackson
First Vice-President	Mrs. W. K. Stowers Natchez
Second Vice-President	Mrs. Henry Boswell Sanatorium
Third Vice-President	Mrs. W. H. Anderson Booneville
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Fourth Vice-President	Mrs. Stanley Hill Corinth
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Advisory Council: Dr. H. Lowry Rush, Meridian; Dr. Leroy Wilkins, Clarksdale; Dr. Henry Boswell, Sanatorium; Dr. J. P. Wall, Jackson; Dr. J. R. Hill, Corinth.

PRESIDENT ATTENDS NATIONAL

Mrs. V. B. Philpot, Houston, president of our state Auxiliary, attended the meeting of the national executive board in Chicago the third week in November. Her report included the following concerning activity in our state:

Along with war work and local activities, we are working to keep our organization strong. Every opportunity is being taken advantage of in putting before lay organized groups clearly the fact that a woman's auxiliary to a medical association is a medium between the profession and the laity, and that doctors' wives are anxious to aid lay organizations in securing for their programs, scientific professional speakers and authenic information on health. In Mississippi each auxiliary member is preparing a brief biography of her husband, and these pertinent data are kept on file in the local auxiliaries.

"Mississippi has a Preventorium in connection with its tuberculosis sanatorium. The state organization sponsors an endowed Preventorium fund, supplemented by voluntary donations from the local auxiliaries, which provides care for two tubercularly inclined children, the year around, usually for a term of three months each.

The importance of keeping in touch with all doctors' wives whose husbands are in the service has been stressed. A number of component auxiliaries have as one of their objectives buying and selling of Defense stamps and War Bonds.

Again, I appreciate this opportunity of contact with you and the information and inspiration afforded me by being here. In the face of these war-torn days with things changing so rapidly, may I leave this wish to each and all:

Patience, good temper, fine ideals and clean
A faith to face the future all serene,
A broader view that seems beyond the trivial
  to the whole,
A trust that knows Heaven's goodness to
  control
And God to guide you—body, mind and soul,
I wish for you.

PREVENTORIUM CHAIRMAN MAKES PLEA FOR CHILDREN

Mrs. Henry Boswell, state chairman for the Preventorium, is anxious for Auxiliary members to awaken to the wonderful opportunity which they are neglecting in not recommending underprivileged children for the Auxiliary fund. This fund lies idle, strangely enough, for lack of Auxiliary-recommended applicants! Mrs. Boswell's report follows:

As your state Preventorium chairman I wish to bring to your attention the privilege and duty we have to keep as many children at the Preventorium as our funds will permit.

We have spent ten (10) years collecting our fund and now we have enough to allow us to keep two children at the Preventorium constantly as long as it lasts.

During this time of stress and strain children suffer frequently more than their elders. I am sure there are many children who need the course of training and physical building up offered at the Preventorium, a preparation for future demands on them that will be of incalculable value.

So, will you please determine through your county health officer, your county health nurse, and your own husband, or through any other source available to you, what children in your community are most in need of this benefit. Talk with their families and explain what the Preventorium can do for these children and send in their applications.

I am enclosing the rules by which we must be guided in admitting them so that you will know what children are eligible and how their expenses will be handled.

It seems to me there is no finer or more substantial thing we can do than this work for underprivileged children in our state. Let's see if we can keep our quota full of Auxiliary-sponsored children, children who will return to their communities to spread the health knowledge they have gained and who will themselves be fit to meet the many demands in the future.

DATA REGARDING ADMISSION OF AUXILIARY-SPONSORED CHILDREN TO THE PREVENTORIUM

1. Lowest charge for any child is $3.50 per week.
2. This amount is to be paid out for the combined fund contributed:
   (a) By the Auxiliaries to the Preventorium Fund, and
   (b) By our philanthropic friend.
3. The only fund sent by the local auxiliary when a child is admitted from the auxiliary is $5.00, to be put into a deposit for that child and used during the entire stay at the Preventorium for extras such as toilet articles, hair cuts, etc. *Each auxiliary sending a child is responsible for this* $5.00. It is suggested that it be given to some individual or organization interested in this child. Any amount left of this fund at the end of the child's stay is refunded to the donor.
4. It is recommended that only two (2) children be kept in the Preventorium at a time from the state Auxiliary. Otherwise the fund would be exhausted too rapidly. Since there are several auxiliaries in the state organization it thus becomes the responsibility of the state Preventorium chairman to pro-rate admissions in a fair way among the several auxiliaries.
5. Each child should stay in the Preventorium until he has become normal again. The average time needed is three months, but if he needs to stay longer, he should be allowed to do so. Otherwise the money invested in him may be wasted.
6. This arrangement does not preclude any auxiliary from sending a child and paying for it as an individual auxiliary if so desired.
7. Children selected for the Preventorium and sponsored by the medical auxiliaries must be (1) indigent children, (2) children capable of receiving the benefit of the régime offered them, that is, not idiots or incorrigibles, etc., (3) must be acceptable to the management, (4) must be between the ages of four and eleven years.

MRS. CLARK HEADS SMA AUXILIARY

Mrs. R. H. Clark of Hattiesburg, Miss., was installed president of the Woman's Auxiliary to the Southern Medical Association at its session in Richmond, Va., November 10-12. Mrs. John Pierpont Helmick, Fairmont, West Virginia, is president-elect; Mrs. James B. Stone, Richmond, Va., first vice-president; Mrs. Charles Daniels, College Park, Ga., second vice-president; Mrs. W. W. Potter, Concord, Tenn., recording secretary; Mrs. R. E. Schwartz, Hattiesburg, Miss., corresponding secretary; Mrs. W. H. Anderson, Booneville, Miss., treasurer; Mrs. Joseph E. Weir, Louisville, Ky., historian, and Mrs. R. C. Haynes, Marshall, Mo., parliamentarian.

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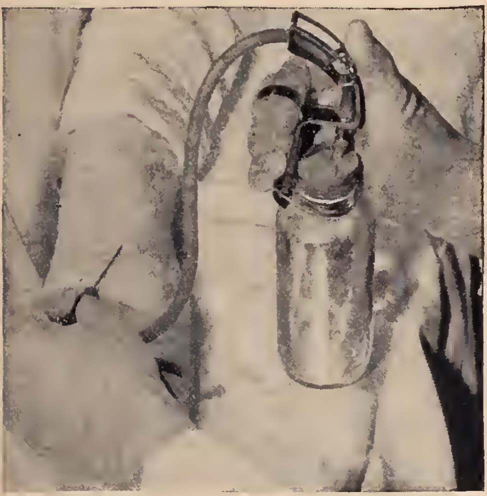

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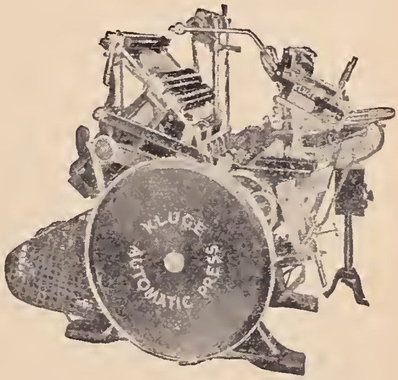

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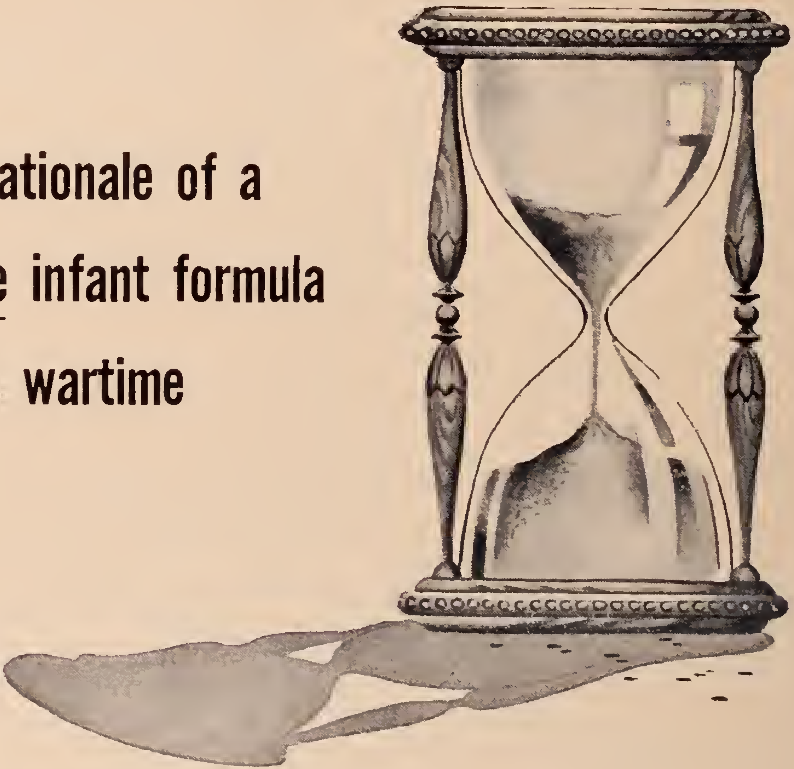

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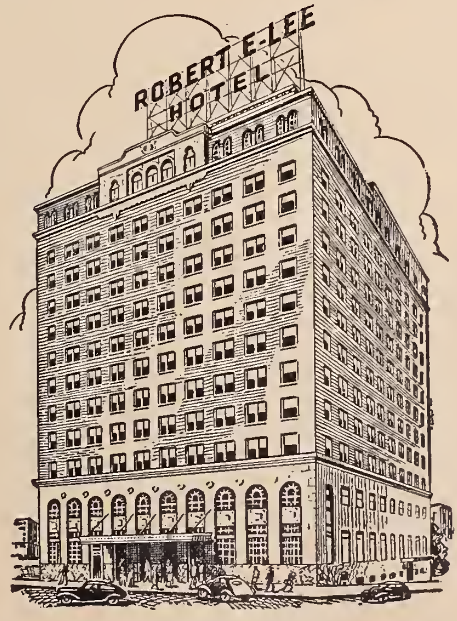

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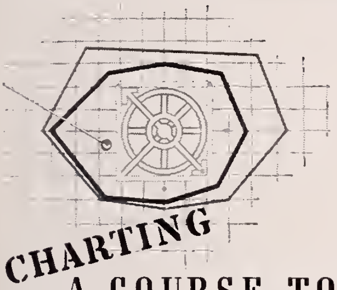

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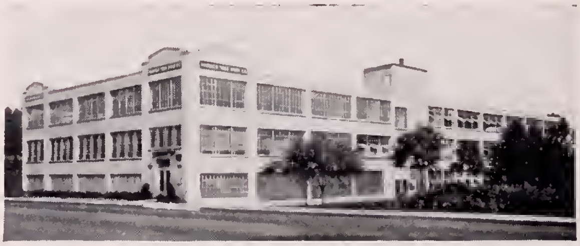

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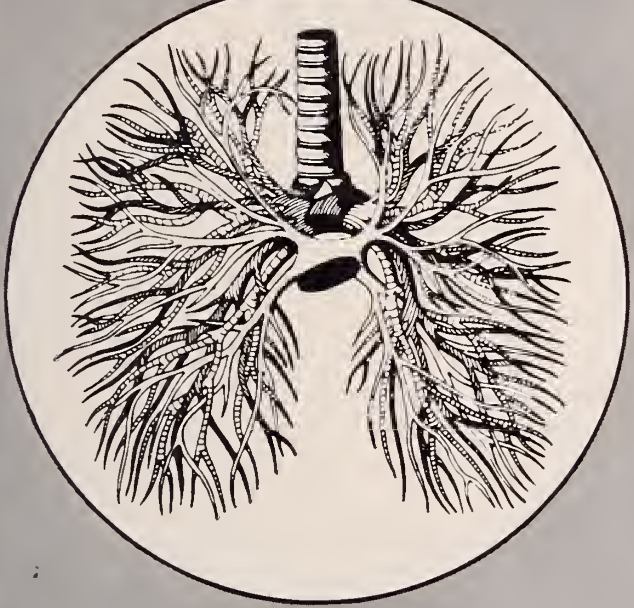

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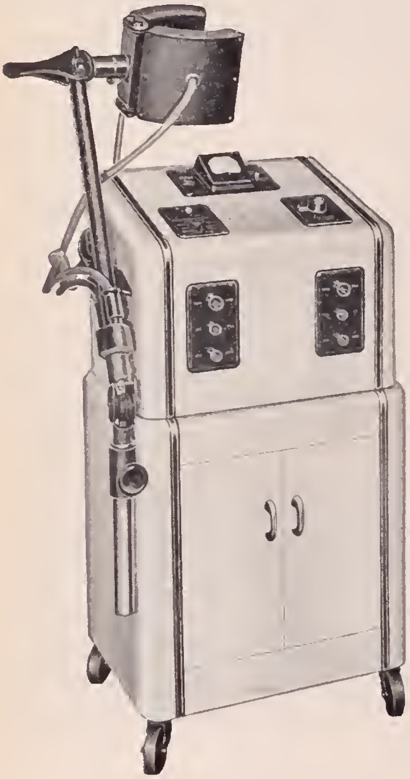

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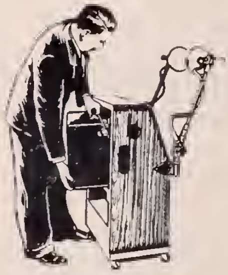

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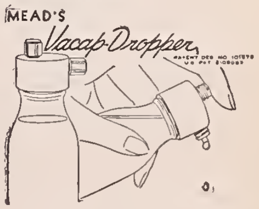

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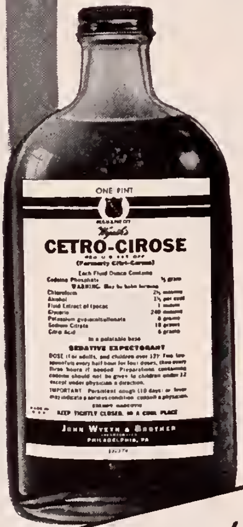

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[1] *Fauley, G. B.; Freeman, S.; Ivy, A. C.; Atkinson, A. J., and Wigodsky, H. S.: Aluminum Phosphate in the Therapy of Peptic Ulcer, Arch. Int. Med. 67: 563-578 (March) 1941.*

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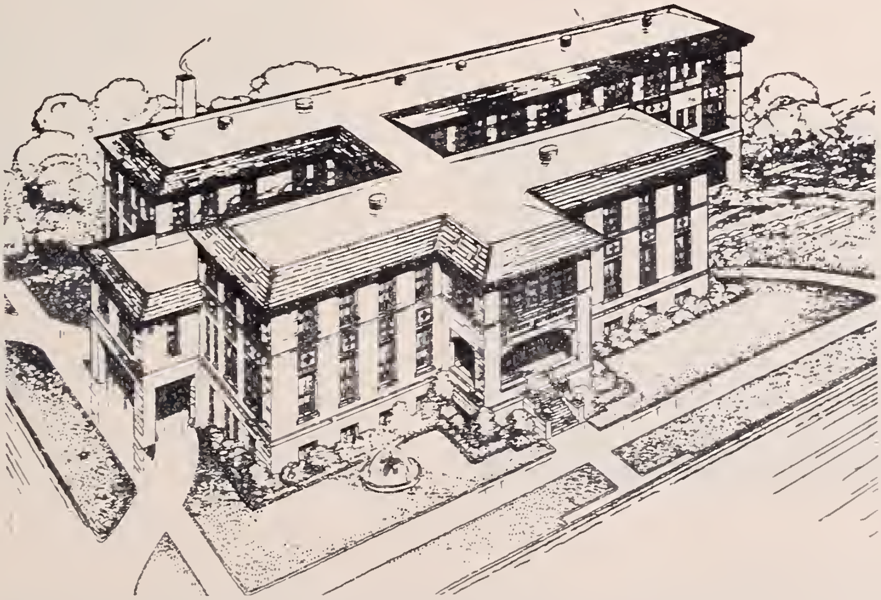

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DECEMBER . . . the star of Bethlehem and the bombs of Pearl Harbor . . . the Prince of Peace and the god of war ☆ Christmas will have little meaning to the thousands of physicians who serve their country and perhaps to thousands more who strive to carry on at home. There is little time for exchange of pleasantries in the grim business of winning a war ☆ But the Christmas Season will come again when the forces of evil are dead—when man again will do unto others as he would have done unto him.

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PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

Medicine and Public Health in Civilian Defense*

Felix J. Underwood, M.D.
Executive Officer
Mississippi State Board of Health
Jackson, Miss.

C

The nation is at war and physicians, public health workers and others are pledging their full resources and skills to help preserve our American way of life. All world crises have presented challenges to individuals and to the nation. But never before, during our lifetime has the challenge been so great as the one provoked by the present crisis. Unprecedented changes and adjustments are taking place and few are the number who have not been affected by them. That still heavier sacrifices loom ahead of us, there can be little doubt. We must fortify ourselves to meet them for this is part of the cost of ultimate victory.

"Wars are lost by generals and won by epidemics," points out the noted Hans Zinsser in his book, *Rats, Lice, and History*. Disease kills more people than bombs and bullets. Realizing that maximum physical fitness is a prime essential in military efficiency and in producing the equipment for fighting, the public health and medical forces of the country are on the alert night and day to insure a high level of health and efficiency for both military and civilian populations.

Many of you are already familiar with civilian defense organization in Mississippi, especially as it relates to emergency medical services. We hope the war will not reach our state, but should such disaster strike we must be prepared with adequate first-aid, medical and surgical care, with hospital facilities, to cope with the situation. I think it worth while to pay tribute here to the splendid response of physicians and hospital officials for making possible the progress Mississippi's Emergency Medical Division has been able to make to date. Everything is beginning to shape up into an effective organization, with units functioning in all eighty-two counties. Particularly gratifying have been the organization of the field casualty service with field units named from each hospital in the community; hospitalization of casualties; medical direction at the control center; collaboration with the Red Cross; and the organization of casualty information and mortuary services. First aid teams have also made commendable headway. Everyone not in the armed services should have a definite part in civilian activities designed to help the war effort.

Total defense presents tremendous problems, the ultimate solution of which will come about only through intelligent coöperation, careful planning, and a willingness to sacrifice. Above all, there must be a unity of purpose and a clear understanding of individual responsibility in this supreme undertaking for national safety and security.

Never before in history have medical and public health forces been called upon to do so much in so little time. With small cities forming almost over night in war production areas, public health problems were multiplied. Trailer camps with their attendant sanitation problems called for immediate attention. Rigid inspection of food and milk and of food handling had to be maintained. Proper measures to protect workers and their families against many of the communicable diseases had to be put to work.

---

*Presented before the Northeast Mississippi Thirteen Counties Medical Society, Tupelo, Miss., December 8, 1942.

These things happened so swiftly that there was little opportunity for advance planning. There was nothing to do but to accept the new problems and to devote our full energies to their successful solution, realizing that there must be no failures which might hazard the health and well-being of those engaged in any phase of the war. It is needless to point out that we had our hands full even before the military forces withdrew much of our public health personnel—we have simply had to spread our efforts over as broad a territory as possible, work longer hours, and serve the most acute needs first. As a result, many public health services, long taken for granted by many people, have had to be curtailed.

In all camp areas problems of community health have arisen, affecting soldier and civilian alike. This is particularly true in matters of water supplies, sewage disposal, food and milk control, mosquito control, and venereal disease control. In all cantonment areas in the state, therefore, public health officials have worked hand in hand with military leaders in insuring health safeguards.

The provision of safe water supplies and sewage systems in these areas involved gigantic problems of engineering and construction. The Division of Public Health Engineering collaborated in plans and methods for this work and many of the problems in this regard are being met satisfactorily.

However, taking care of the problems of food and milk control has presented some difficulties. Constant work and vigilance are required to maintain desirable standards, and they become all-important in a crisis such as this. No man in the military service of the United States is permitted to drink milk which is not pasteurized. As you can well imagine, it proved difficult at first to obtain sufficient quantities of milk of any kind for the thousands of soldiers at a camp so large as Shelby. Arrangements had to be made for obtaining it from sources as far away as Noxubee and Lowndes counties. In addition, plans had to be made with dairymen to treat all this milk by the pasteurization process. This involved the purchase of equipment and a tremendous outlay of money on the part of the dairymen. Through coöperative efforts of the State Board of Health, this hurdle too has been overcome.

Examination of foodhandlers and the maintenance of sanitary standards for handling food in defense areas has been a never-ending job because of the numerous establishments which have sprouted up in the camp areas. Such establishments now have to have a permit before they can operate in any emergency military, naval, and/or war industries zone, and they have to comply with the standards specified by the State Board of Health.

Malaria drainage is another vitally important project for cantonment areas due to the fact that those who have never before had malaria have severe reactions from it. Most of the thousands of soldiers quartered in the state come from areas where malaria is not very prevalent and such individuals are very susceptible to the disease. The Division of Sanitary Engineering in coöperation with the United States Public Health Service had organized a program of larvicidal malaria mosquito control in areas contiguous to army, navy, and war industrial plants to protect troops and workers against the malaria menace. All areas within a one-mile radius are being sprayed or treated. Since the malaria mosquito rarely ever flies more than a mile for a blood meal, this will afford ample protection. Last year protection against Anopheles mosquito breeding was made possible by a combination of drainage and treatment of mosquito breeding waters. Since that time, continuous engineering work has been proceeding in order that drainage may be more nearly complete before another mosquito season arrives.

Another real problem which has arisen in defense areas is that of the venereal diseases. Prostitution has flourished and it has followed that there must be rigid supervision of cases and carriers, treatment, and follow-up of contacts in order to protect the military forces and prevent spread of these diseases. The enforcement of venereal disease control measures was strengthened to some extent by the enactment of recent legislation in the state.

The foregoing are but a few of the ramparts raised against disease problems created by troop movements and the influx of large numbers of industrial workers in Mississippi. In addition, the State Board of Health is proceeding with its usual program of public health protection insofar as facilities and personnel permit, expanding it where indicated to take care of the health needs of civilians and others. Of the 82 counties in the state, 65 are now served by full-time county health departments. These take care of 84 per cent of the state's population. We were in close sight of 100 per cent full-time local health organization until the war came and made it necessary to give up much of this state's and country's trained public health personnel for military duty.

Public health workers on the whole have demonstrated a spirit of willing sacrifice, where necessary to win this war. But in spite of the excellent spirit of coöperation, it has been exceedingly difficult to try to do all the additional work imposed by the war effort and to hold intact, with personnel being lost daily, the more substantial gains made in public health to date. Nevertheless, employees have borne up loyally under the extra load and you will hear little or no complaining — notwithstanding the fact that the load has been exceptionally heavy in some of the divisions. The divisions of vital statistics, laboratory, and preventable diseases are notable examples. In addition, we are endeavoring to do our part in the state civilian defense program, and many extra hours have been contributed by various employees in order to help get this work efficiently organized.

As has been pointed out, "There is some vitally essential activity for every individual to share, in addition to paying his taxes and buying defense bonds. But it might be well to remind ourselves, occasionally, that there cannot all be dramatic or obviously heroic activities. We are engaged now in a race toward a goal of production. If we win it, democracy may yet be saved; if we fail, the future looks dismal enough. As impressive as the most military of our civil uniforms and far surpassing them in numbers must be the aprons and the overalls."[1]

The editor of the ROCKY MOUNTAIN MEDICAL JOURNAL contributed a nice little editorial recently, entitled, "Our Part in Our War." He states:

" . . . While the functions of medical societies do not appear changed, we do see a need for rapid readjustment of emphasis. Educational programs should be continued in the same broad manner as before, but more attention should be given to control of epidemics, casualty control and relief, and mental hygiene. Medical societies should coördinate their work at once with State Defense Councils, health departments and the Red Cross. Also, medical societies should work closely with the Procurement and Assignment Service to help in supplying personnel which can be spared to the military forces. . . . Since a community without a physician can maintain neither sound health or sound morale, the local society should assume the responsibility of seeing to it that all communities in its area are served with medical care. . . . In most instances, cities can easily spare physicians for military service and in most instances rural areas cannot. It will take courage for local medical society officers to dissuade some of its members from an activity springing from pure, but hasty, patriotism, but which would rob a community of its only physician for maybe months before there could be a replacement. He must be made to realize that certain civilian activities also are essential cogs in the defense machinery and that the people who do these jobs must have medical care. We are all familiar with the slogan, 'Keep 'em flying!' For our profession let's now expand it: Keep 'em fighting! Keep 'em building! Keep 'em harvesting! KEEP 'EM WELL!"[2]

Surgeon General Parran[3] tells us, after making some first-hand observations in England, that "If we are to learn anything from the British experience on the medical front, we must reorganize our approach to the problem of medicine's contribution to the defense effort. The medical needs of the civilian population should be considered in all recruitment plans, and should be balanced against the military, industrial, and civilian health and medical services should be recruited on a quota basis, having in mind the services which each individual physician can render best. . . . The successful local organization of medical defense effort in Great Britain (he points out) was possible because for two decades or more Britain has had a nucleus of trained medical officers of health. Without this nucleus effective local medical defenses could not have been organized. We should take steps promptly to double the number of doctors with training and experience in public health and medical administration. In addition, there should be a comparable increase in public health nurses, sanitary engineers and inspectors, laboratory technicians, and other technical public health personnel. Now training centers will be needed for the training of key persons who in turn will train others who will work under supervision in local communities. . . ."

Amid the demands and frustrations of the present crisis, all of our ideals do not seem possible of early realization. However, I do not believe it is too early to begin planning, and even looking toward that day when peace shall come again, and to make our preparations accordingly. For without doubt, we shall face a world in which many values will have changed, both social and economic, and many new responsibilities will be presented which we must be ready to meet. The medical and public health professions have met the challenges of past crises, and have through their experiences in them developed new and improved technics which brought new benefits to present and succeeding generations. Let us hope that when we have emerged from the present conflict, our contribution to life-saving methods will have offset in some measure the tragic toll of the battlefield. Since we live in a period of almost revolutionary achievement, I sincerely feel that public health and medicine shall not be found lacking in the advances which may be made, or in meeting the demands of the future.

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1. Editorial, New Eng. J. of Med. 226: 464-465, Mar. 12, 1942.
2. Editorial, Rocky Mt. Med. J. 39: 15-17, January, 1942.
3. Trans. 29th Ann. Conf. of State and Territorial Health Officers with the U. S. P. H. S., April 2, 1941.

Some Highlights in Public Health Progress in Mississippi

Fostered by the medical profession, the State Board of Health has been serving the people of Mississippi since 1877. By adhering to very high standards for many years, it has won widespread recognition in its efficient health administration. The progress which has been made in saving life and preventing death is convincing proof of the soundness of modern public health procedures.

Back in 1877 when the State Board of Health was created, public health activities were regarded more or less as temporary procedures, not to be called into use except in the face of epidemics or other emergencies. The legislature had not granted it sufficient powers in its early days even to establish proper quarantine, so for a long time it stood at the crossroads awaiting an opportunity to put to productive use the fundamentals of public health as had been evolved at that time.

Slowly but surely various obstacles were overcome and headway began to be made in curbing the incidence of such diseases as typhoid fever, smallpox, yellow fever, diphtheria, malaria and other communicable diseases. People came to be stirred as never before regarding the wisdom of sanitation and disease prevention. In 1917 the first full-time county health department was established in the state. Other full-time local units followed as enlightened citizens made increased demand for such services and as adequate appropriations and trained personnel became available. Provisions of the Social Security Act gave further impetus to the development of local health departments and today there are 65 counties with full-time health service. These counties serve 84 per cent of the state's population. Greater enlistment of citizen participation in health activities, together with advancement of standards of personnel and services, has increased the effectiveness of the public health program considerably.

A milestone was passed in 1924 when the legislature passed a law protecting the State Board of Health from any political interference in the execution of its important duties. In that same year Dr. Felix J. Underwood became the first full-time state health officer of Mississippi, having served for several years previous as director of the Bureau of Child Hygiene. From that time on, activities of the State Board of Health began to pick up and many are already familiar with the excellent record it has made in efficient, economic health administration.

There is not space for an extensive review of accomplishments since Dr. Underwood became state health officer. However, every physician is familiar with values and the services of such divisions as: the State Hygienic Laboratory, the State Tuberculosis Sanatorium and its field diagnostic units, the Preventorium, the Medical Library, the Division of Maternal and Child Health, and the numerous services of the Division of Preventable Diseases Control, including venereal diseases. Perhaps not so familiar to physicians are the many accomplishments in sanitation. Many a disease menace has been eliminated through environmental improvements and many a community has been made a more attractive and healthful place in which to live.

Illustrative of the type of services rendered through the full-time health department in Mississippi, working hand in hand with the ever-faithful members of the medical and dental professions, is the following tabulation:

ACCOMPLISHMENTS IN FULL-TIME COUNTIES—1941

607,059	venereal disease treatments administered.
7,295	x-ray examinations for tuberculosis.
137,940	individuals immunized against typhoid fever.
66,857	individuals immunized against smallpox.
45,597	individuals immunized against diphtheria.
101,989	linear feet of minor drainage completed.
17,620	new privies installed.
14,549	maternity cases given health supervision.
46,423	school children given physical examination.
173,945	laboratory examinations for syphilis.
11,259	complete dental corrections.

And so public health work in Mississippi marches on! As additional knowledge is unfolded for protecting life and health, so it will be applied in the most able manner possible if it is a public health responsibility and under the direction of one like Felix J. Underwood. Physicians of Mississippi can well be proud of his distinguished record of service and of the honor conferred upon him by other colleagues in electing him president of the American Public Health Association.

Garlic, or rather the lack of it, made the Israelites rue their departure from Egypt when under the leadership of Moses they were on their journey to the Promised Land. They reminded one another that back in the country of bondage they had garlic and onion. This characteristic vegetable is well-known for its pungency and flavor and also its odor which is freely given off by the breath as well as the skin, unmistakably.

Garlic has been used as a drug for centuries. It is now being advocated as a useful agent for hypertension, etc.

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JACKSON, MISS.

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Vinethene anesthesia is as rapid but less dangerous than ethyl chloride inhalation anesthesia. Unconsciousness usually occurs in 20 to 40 seconds. The muscular relaxation obtained with vinyl ether anesthesia is comparable to that of ethyl ether and chloroform anethesia.

As nystagmus is frequently observed during the induction and recovery periods the eye signs are unreliable. The respirations provide the most important guide to the depth of anesthesia. These are rapid, shallow, and smooth in the third plane of surgical anesthesia. The danger from overdosage is chiefly due to respiratory failure. Artificial respiration and administration of oxygen are indicated if this occurs. Recovery is rapid, without excitement. Vomiting in uncommon.

I shall discuss only the open method of anesthesia for very short surgical procedures. I cannot emphasize too strongly that vinethene is a very rapidly acting anesthetic and that its administration differs markedly from ethyl ether. It is extremely dangerous if not carefully used in selected cases. I have used it during the past two years chiefly for incision of abscesses and myringotomies. It is of great relief to the child, to the parents, and to the doctor to be able to accomplish these procedures without pain.

Vinethene is used in the office and in the home. It is conveniently carried in the bag. Its administration is easy and rapid. Children wake almost immediately and are able to walk out of the office in a few minutes.

The usual precautions for protecting the eyes and skin are observed. The vinethene is dropped from a 10 cc. bottle upon the open gauze mask at the rate of about 60 to 80 drops per minute. An adequate amount of air is always provided.

Analgesia is usually obtained in 30 to 50 seconds. Myringotomy may be performed at this stage. The anesthetic is stopped immediately after the myringotomy or other incision is completed. The entire period of induction, operation and recovery takes only about 2 or 3 minutes.

If a longer operation is performed, the patient will pass through the second stage very rapidly and usually without excitement. In the third stage, breathing becomes regular and quiet. If intercostal activity ceases, the patient is in the fourth plane of surgical anesthesia. This should be avoided. Once it occurs, the anesthesia can be rapidly lightened by the administration of artificial respiration and oxygen.

Vinethene anesthesia has been of great value to me in very short surgical procedures. It must be used with caution and understanding.

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*Read at Jackson May 11, 1942, before the State Pediatric Society.

The General Practitioner and the Acute Surgical Abdomen

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ACCORDING TO statistics there has been but little reduction in the mortality rate in acute abdominal emergencies, due to appendicitis, since 1910. For years, it has been my idea that a more universal case coöperation between the practicing physician and the surgeon would in a great way effect a reduction in the mortality rate of the acute abdomen. With the advent of sulfanilamide, which is proving to be near a specific in infections, together with a closer coöperation between the physician and the surgeon, I can envisage a greatly reduced death rate in abdominal emergencies, in the near future.

Outstanding and obvious signs and symptoms make the diagnosis of acute abdominal lesions comparatively easy in many cases. Others, however, tax the very best minds even when supported by all the diagnostic aids available to modern medicine. Fortunately these cases are not frequent. It is estimated that more than ninety per cent of the cases of so-called acute surgical abdomen are first seen by the general practitioner. Statistics show that acute appendicitis constitutes about seventy per cent of all such emergency attacks.

In presenting this paper, I hope it will be an incentive to the general practitioner to be more on the alert in interpreting the meaning of the signs and symptoms of morbid conditions, that we may be enabled to arrive at an earlier diagnosis in abdominal emergencies, and to act more promptly.

It is not my intention to suggest that it is always possible to diagnose a case in a few hours, but I do say that any case of severe abdominal pain, which lasts longer than six hours, and which holds any doubt of its diagnosis, is serious enough to justify the attention of a surgeon, or rushing the patient to the hospital, not necessarily with the purpose of operating, but of clarifying the diagnosis.

In my opinion, there should be a time limit for the making of a diagnosis in a case of acute abdominal disease. Upon the physician who is first to see the case rests the greater responsibility. He must recognize the urgency of the situation and determine the proper course to pursue. If he is slow, the patient may experience irreparable damage, or perhaps loss of life. It has been said that there are no conditions which call upon the practitioner for skill and prompt action in the same degree as do the acute emergencies which occur in connection with abdominal diseases. The physician is confronted with two problems: 1) Is the lesion causing this emergency located within the abdomen? 2) If it is in the abdomen, is surgical interference warranted? If at all possible, his decision should be prompt. Correct treatment can rest only upon a correct diagnosis.

As abdominal emergencies, we think of acute appendicitis, intestinal obstruction, ruptured peptic ulcer, ruptured ectopic pregnancy, and a host of other abdominal conditions.

First, a short history of the attack is essential. Let the patient tell his own story. We may then question him to obtain more details of what we consider the important points. The physician should then proceed promptly with the physical examination. The first glance may suffice. The anxious, perspiring face may point to the shock of perforation, or a deathlike pallor with air hunger may be the evidence of ruptured ectopic gestation.

In dealing with any acute surgical condition of the abdomen, there are six diagnostic signs which are of paramount importance and a proper appreciation of which will often lead us to a correct diagnosis — pain, vomiting, tenderness, pulse changes, temperature changes, and spasm or rigidity. There are other signs such as facial expression, color of the skin, abdominal distention, etc., but these six are the most important in the early stages of the process. Others may appear later and may make the prognosis very serious.

Pain is probably the most important and constant symptom of acute abdominal disease. It is usually an outstanding symptom of any acute surgical condition of the abdomen. At first it is commonly very sudden. It may be slight, but as a rule soon becomes intense. The most common site of pain is in the region of the umbilicus, whereas later it will likely localize over the region of the offending organ. The character of the pain may simulate that of renal, hepatic or intestinal colic, or it may be very severe and continuous as seen in ruptured ulcers.

While discussing pain it may be well to remember that the patient with renal or hepatic colic rolls and tosses about in his agony in contradistinction to the patient with ruptured ulcer, who guards his whole body against the slightest movement. This, however, is not an infallible rule, for I saw a patient about three years ago with an acute surgical abdomen who presented the typical picture of a colic, but who had a ruptured duodenal ulcer. When there is marked distention of the appendix, the pain may be very severe and the temperature low. It is generally considered that the persistence of abdominal pain for more than six hours, in a person previously well, if accompanied by nausea or vomiting or a rising temperature, or a pulse rate, is very suggestive of an acute surgical condition of the abdomen, and, therefore, demands careful attention and prompt action by the physician.

Vomiting is usually but not always present in these conditions. If so, it most often occurs soon after the onset of pain. Lack of vomiting should not be considered as an indication of safety, for I have seen, and I am sure most all of us have seen, patients with a gangrenous appendix who did not vomit.

Tenderness is an important sign and is usually found in the acute surgical abdomen. It may be superficial or deep. Superficial tenderness is really a cutaneous hyperesthesia. This we may determine by pinching or rubbing the skin and is a reflex phnomenon. It is not always dependable. Deep tenderness is a very valuable sign. It is usually found directly over the diseased organ. At first it is usually generalized then becomes localized a few hours later. Rebound tenderness is elicited by sudden release of pressure over the tender area. As a rule it has no more diagnostic significance than deep tenderness.

Pulse changes, the rate and volume of the pulse, has considerable diagnostic value in these conditions. There are recorded instances where a severe abdominal trouble has occurred and the pulse remains almost normal in rate and volume, but such is not often the case. The pulse rate commonly rises with the progress of the disease, making it necessary to note the condition of the pulse at frequent intervals, whereas a single recording would be of no value. A pulse rate that is higher in proportion than the temperature means a spreading infection with low resistance and is a bad prognostic sign.

Temperature changes for the first few hours after the onset of the disease will probably be little or none. Then, if the patient is an adult the temperature will likely rise to an elevation of 99° or 100°. Temperature higher than this would indicate spreading infection, which as a rule is not seen until late in the disease. Early in the disease if a subnormal temperature prevails in an obviously severe abdominal lesion, it is an indication of shock. If a subnormal temperature appears later, it is evidence of a lack of resistance. It is certainly unwise and sometimes fatal to wait for the appearance of fever in a case and suspected abdominal disease.

Spasm or rigidity are true objective signs in acute surgical conditions of the abdomen and are a part of the defense mechanism of nature. In the early stages they may not appear, but they soon develop over the offending lesion. Spasm and rigidity will vary with the nature and location of the process. The board-like rigidity seen in ruptured ulcer or even one which is trying to rupture, varies considerably from the slight spasm seen in the mild appendix case. The retrocecal appendix, even though severe, may produce but little spasm or rigidity. Rigidity is marked in perforation, but there may be little, if any, in abdominal hemorrhage.

If the patient is a child, the two most important early symptoms are pain and vomiting. In the majority of the cases the most pronounced pain is in the region of the umbilicus rather than in the expected quadrant. When examining the case if nature has not already flexed the thigh on the abdomen, the physician must do so, for in the examination a slight rigidity may preclude obtaining pain or pressure where no other signs of it are gained. Flinching is of importance. Do not place too much reliability in what the child states. Frequent attacks of umbilical pain should arouse the suspicion of an indigestion, and frequent indigestions of an appendix. If the physician doubts pain, permit the child to sit in the erect position. If pain is absent, he will not complain. If it is influenced by the appendix, he will refuse to sit in that position.

Abdominal rigidity without tenderness would suggest that the diseased process is not in the abdomen. In this condition, we should give the chest a thorough check-up. A diseased process outside the abdomen, which may resemble the acute abdomen, are in two groups — pulmonary and cardiac. Diaphragmatic pleurisy or a pneumonia near the diaphragm will cause abdominal rigidity. But, usually there is no tenderness unless the lesion is close to the diaphragm and the physical findings in the chest should reveal the pathology. Attacks of coronary thrombosis, or angina pectoris, will transmit pain to the abdomen, causing epigastric distress, shock and vomiting typical of an acute abdomen, but there is little if any tenderness.

Lesions of the urinary tract may confuse the diagnosis in acute abdominal disease. In such conditions we will likely have pain and rigidity with some tenderness along a ureter if it is involved. Tenderness is usually found over one or both kidneys with pain in the groin and usually we will find a tender spot near the symphysis on the affected side. A urinalysis should verify the diagnosis.

The physician who suspects that his patient may have appendicitis, or any other acute abdominal emergency, should see him again in not more than a six-hour interval, or receive accurate information in regard to his condition. To do otherwise is gross neglect. In the meantime, keep the patient as quiet as possible. Give no food, no cathartic, and very little, if any, opiate. A leucocyte count and a urinalysis should be done as soon as possible.

In conclusion, every physician should have a keen perception of the typical signs and symptoms of acute appendicitis, and be ever on the alert when attending any type of acute abdominal disease. Mistakes in diagnosis will occur, of course. But eternal vigilance, together with a closer coöperation between the general practitioner and the surgeon, will minimize the death rate due to the acute surgical abdomen.

X-ray Therapy in the Treatment of Deafness*

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DURING THE PAST ten or eleven years there has been a great deal of very good clinical and laboratory research work on the causes, treatment, and prevention of impaired hearing and on the physiology of hearing.

Hughson and Thompson[1] say, "Endocrine, vitamin and drug therapy, though at the moment exploited far beyond their proved value, offer fascinating problems for research both in the matter of prevention and alleviation of deafness. Their ultimate place in otology will certainly be one of great importance." The most spectacular work has been on the surgical treatment of otosclerosis. Special surgical training and much cadaver work are necessary before one should attempt this type of work.

In my opinion the most practical and the most valuable research on this subject and one which will have very far-reaching results has been done by Crowe, his co-workers, and others on radiation therapy of the nasopharynx, especially when used in children and adolescents. Every well trained and equipped otolaryngologist should be easily able to diagnose the type cases that need this treatment. An audiometer and a nasopharyngoscope are the essential equipment needed in addition to the routine ear, nose, and throat examining instruments.

Crowe[2] reports that audiometric examinations, voice, and tuning fork tests have been made on over 3,000 school children. Only about 60% showed normal hearing in both ears. Very few of the other 40% were known to have impaired hearing. He has found that adenoids recur in 75% of children having tonsils and adenoids removed before the age of puberty and that this often interferes with the aeration of the middle ear and causes an insidious type of deafness. He also found that in childhood all types of impaired hearing, with the possible exception of otosclerosis, have one symptom in common, namely that the hearing is more impaired for high than for low tones. This does not always indicate an inner ear lesion even if the bone conduction is impaired. The location and not the size of the lymphoid recurrence causes the symptoms. Intra-tubal lymphoid tissue which is not accessible to surgery may be the offender.

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Guild et al[3] examined 1,365 Baltimore school children with similar findings.

Crowe and Burnam[4] report that the patency of the eustachian tube in children is not determined by inflation, which is an artificial procedure, but by inspection of the tympanic membranes for retraction (especially Shrapnell's membrane), by examination with the nasopharyngoscope and by voice and audiometric hearing tests. Every child with eustachian obstruction should have something done to relieve it. The proper treatment is not a second operation but irradiation of the nasopharynx. They state that this result is only temporary and may have to be repeated two or three times a year for several years and thus maintain an open eustachian tube until the child is tided over a difficult period. They prefer radium or radon applied directly to the nasopharynx, but state that the same results can be obtained by x-ray. X-ray men think that better results can be obtained by x-ray because the sinuses, middle ears, and mastoids can also receive benefit of the treatment.

Schenck[5] reports results of radiation therapy for recurrent lymphoid tissue in 22 children ranging in age from six to twelve years, all with hearing loss enough to need treatment. Microscopic sections were obtained before and after irradiation. Some were treated with x-rays, some with radium, and some with both. Microscopic findings were the same whichever agent was used. Before irradiation the sections showed hyperplasia and chronic inflammation with many lymphocytes. After irradiation the lymph channels appeared to be increased in number, while the endothelial cells were decreased. The number of lymphocytes was reduced. After six months there was a reappearance of lymphocytes. (This fits in with Crowe's clinical observation that it is sometime necessary to repeat the radiation every six months for several years depending on clinical and audiometric follow-up.) Of four patients treated with x-ray alone, three were improved. Of seven patients treated by radium alone two were improved, but three other cases only incompletely treated by radium were all improved. Of four patients treated by both two were improved.

My cases have all been treated by x-ray since I had no available supply of radium or radon. Most of them were treated by Dr. W. R. Bethea of Jackson, Mississippi. Of ten cases on which I have fairly complete records eight have shown definite improvement. Six of the eight had not yet reached adolescence. The two without real benefit were twenty-two and forty-five years old.

CASE REPORTS

Case No. 1, J. T. K., Jr., white male, age 12.

August 12, 1935, he gave a history of several tonsil and adenoid operations, repeated attacks of earache with concomitant deafness and he had seemed slightly deaf all the time for several years. W. V., S. V., and acoumeter heard at room distance (20 feet). Shortened positive Rinne in each ear. Weber was slightly lateralized to left ear. Audiometer not available but the examiner heard the 265 fork 15 seconds longer than the patient could.

P. E. Sinuses transilluminated well and equally. Nose appeared normal. Granular pharynx. Adenoid recurrence seen with mirror, and felt on digital examination. Drum membranes were dull, gray, and very retracted. Advised x-ray therapy.

December 1935. Severe persistent attack of catarrhal otitis media following a cold in the head.

January 7, 1936. He just returned from Memphis where he had had daily x-ray therapy by Dr. Bethea for five days. Sinus x-rays showed thickening of mucosa of both antra.

February 4, 1936. Was just getting over a bad cold, hearing unaffected by it. (All previous colds had affected hearing). Ear drums were no longer retracted but showed some scarring.

June 5, 1936. Head cold one week. Ears felt all right but on examination were found to be markedly retracted again and W. V., S. V., and acoumeter could be heard at only 15 feet in both ears. Advised more x-ray.

July 3, 1936. Had daily x-ray therapy for four days preceding week. Felt better, heard better.

March 22, 1941 (five years later). Came in to see about glasses. No ear complaints, said his hearing was fine. Had an acute cold however. Right ear drum was red, scarred, and retracted. Left ear drum looked practically normal. Audiogram was practically normal for left ear but showed about ten to fifteen decibels loss in right ear. Advised that further x-ray therapy might be worth while, especially if hearing should fail any further.

This was his first audiogram but I am sure if one had been available before the x-ray treatment five years previously it would have shown up much worse.

Case Reports

Case No. 2. A. G., white male, age 7 years.

March 14, 1936. For six months his teacher had complained of his hearing being poor. No earache. No history of otitis media. Had tinnitus occasionally. Very few colds and sore throats since I removed his tonsils and adenoids two years previously. Seemed to have some postnasal drainage. Family history of deafness which was rather indefinite.

On examination his sinuses transilluminated well and were not tender. Nose appeared normal. Throat normal. No tonsil recurrence. No recurrence of adenoid tissue could be found by digital examination. He would not tolerate postnasal mirror or nasopharyngoscope. His general appearance was that of a perfectly healthy boy. Ears were negative except for slight retraction of drums.

Hearing tests: Audiometer not available. W. V., S. V., and acoumeter heard fairly well at 20 feet. Rinne, shortened positive. Air conduction with tuning forks definitely shortened as compared to examiner's ears. Tests indicated a definite conductive deafness. Advised x-ray treatment.

March 27, 1936. In Memphis taking daily x-ray treatment for five days by Dr. Bethea.

April 1, 1936. Dr. Bethea reported that x-ray films showed hypertrophic membranes in his sinuses and sclerotic type mastoids.

May 13, 1936. Another x-ray treatment by Dr. Bethea.

May 15, 1936. Mother and teacher both say he has been vastly improved by the x-ray treatment. No postnasal drip since the first treatment. No more tinnitus. Test on a McKesson acoumeter showed normal hearing.

December 26, 1939. Came to office because of small scalp wound. Audiogram was made and was normal except for ten to fifteen decibel loss for notes above 4096. Ears normal.

Case No. 3, R. D., white male, age 10½ years.

March 30, 1940. P. I. Nasal obstruction on right side for past six months associated with some noticeable impairment of hearing.

P. H. Tonsils and adenoids removed when very young. Adenoids had to be removed again a year or two later. Had never had an abscessed ear. General health fine.

F. H. One of mother's sisters is very deaf. Another moderately so. Lymphoid hypertrophy seems to run in the family. Family history of allergy (hayfever and mucous colitis).

P. E. Sinuses transilluminated well and were not tender. The nasal mucosa was pale and swollen but shrank fairly well with ephedrine spray. A growth thought to be a polyp was seen in the posterior part of the right nasal cavity by anterior rhinoscopy. Postnasal mirror was not tolerated but adenoid fossa was palpated and no excess lymphoid tissue felt. No growth could be seen in the left nasal cavity. Tonsils were cleanly removed. Oropharynx normal. Drum membranes were somewhat retracted but normal otherwise.

Laboratory: Complete blood count and urinalysis were normal. Nasal smear from right side showed a few pus cells and no eosinophils. Bleeding and clotting times were normal.

Sinus x-ray showed moderate antral haziness worse on the right side. Audiogram showed about ten decibels' loss for notes between 256 and 2048, less for tones lower than this and up to 30 decibels' loss for higher notes, somewhat worse on right side. Rinne ten seconds right ear, and fifteen seconds left ear. Weber lateralized to right side.

On the same day he was operated under ether anesthesia for the "polyp." With a nasal snare and nasal punch forceps considerable tissue was removed through the nose from the posterior part of both nasal cavities but much more from the right side. A very small amount of adenoid tissue was removed through the throat with the La Force adenotome. The tissue removed through the nose was found not to be a polyp but grossly appeared to be lymphoid tissue. This tissue only was sent to Dr. Leon S. Lippincott in Vicksburg who reported "Lymphadenoid hyperplasia with chronic inflammation and passive congestion. Some chronic inflammatory nasal mucosa. Few eosinophiles."

May 27, 1940. Audiogram showed much improvement but some of the notes were still below normal especially the higher notes. Advised to have x-ray treatment to nasopharynx as soon as school was out.

In July his nasopharynx was treated with x-ray by Dr. Leon Menville in New Orleans.

October 12, 1940. Had a bad cold but no

evidence of recurrence of the growth in his nose. Audiogram showed marked improvement as shown on graph.

July 2, 1941. Had been doing fine. Slight head cold the week before. No more growth in nasal cavity. Nasopharyngoscope showed some recurrence of adenoid tissue. Audiogram showed further improvement in high notes. Further x-ray treatment advised because of the recurrence of adenoid tissue. Audiogram showed further treatment in high notes. Further x-ray treatment advised because of the recurrence.

August 20, 1941. X-ray therapy by Dr. Bethea in Jackson.

August 21, 1941. X-ray therapy by Dr. Bethea in Jackson.

September 4, 5, 1941. More x-ray therapy by Dr. Bethea in Jackson.

September 28, 1941. Examination with nasopharyngoscope shows lymphoid tissue in nasopharynx to be definitely smaller. Hearing still all right.

Case No. 4. D. J. S., white female age 6 years.

P. H. Frequent colds for several years with impaired hearing with each cold. General T. & A. by me two years previously because of this condition, with some improvement.

F. H. Not available.

April 20, 1940. P. I. Head cold nearly all the time for the past two or three months. Deafness off and on all this time.

P. E. Both ear drums red and retracted and contained fluid. Acute coryza. Throat looked all right. Sinuses transilluminated well.

Audiogram showed an average of 15 db. loss for left ear and 25 db. for right ear, only slightly worse for high notes.

Treatment: 1% ephedrine normal saline nose drops by Parkinson method four times daily.

April 27, 1940. Ears looked about the same. Cold in head was somewhat improved. Digital examination showed some definite recurrence of adenoid tissue in nasopharynx. X-ray therapy advised as soon as school was out.

May 12, 1940. O.M.P.A. right. Myringotomy done. Culture taken.

May 13, 1940. Culture showed staphylococci and pneumococci. Profuse discharge.

May 16, 1940. Right ear drum had to be re-opened.

May 20, 1940. Ear drum looked practically normal.

May 22, 1940. Pain waked her at midnight. Right had to be reopened. Bloody pus obtained.

May 27, 1940. Still draining. No more fever. Advised to get x-ray therapy right away.

May 27-30, 1940 (inclusive). Daily x-ray treatment by Dr. Bethea in Jackson, Mississippi.

May 30, 1940. Had continued having fever and still had mucoid discharge from ear.

June 5, 1940. Ear had finally become dry and said she could hear much better.

April 9, 1941. Subacute maxillary sinusitis, right side. Ear drums slightly retracted. Given a very light Proetz treatment with ½% ephedrine and started on sulfathiazole.

April 16, 1941. Right earache last night. Right ear drum was red and slightly retracted. Advised more x-ray treatment.

April 16, 17, and 18, 1941. Daily x-ray treatment by Dr. Bethea.

June 23, 1941. Had done fine since last showed normal hearing left ear and about 15 db. loss in right ear. Advised re-check in two months and more therapy if the right ear had not improved.

September 3, 1941. No more trouble. Audiogram practically normal in both ears.

Case No. 5, A. W., white female, age 7.

March 28, 1939. History of frequent earache and occasional abscesses in ears. T. & A. three or four years ago. Mouth breather. Frequent colds.

P. E. Both ear dums were red and retracted. Nose looked all right. Tonsils were out well. Much recurrent adenoid tissue found on palpation. Many decayed teeth. Advised secondary adenoidectomy. Started on isotonic ephedrine nose drops and a cod liver oil and malt preparation.

May 16, 1939. General health much better. Re-advised removal of adenoid tissue to be followed by x-ray therapy.

August 30, 1939. Was still keeping a cold nearly all the time. Same advice given. Started on cod liver oil and malt tonic.

April 26, 1940. Mother said child had done unusually well all winter. No severe colds and no ear abscesses.

P. E. Sinuses transilluminated well. Nose open well. Ear drums retracted and scarred. Adenoid tissue still present. Enlarged glands in neck. Audiogram showed 30 to 40 decibels' loss of hearing in most notes, worse in higher notes.

Stressed the urgent need of roentgen therapy to nasopharynx to prevent permanent deafness.

April 28, 1940. Started on x-ray treatment by Dr. Cash King in Memphis.

May 11, 1940. Had two or three treatments. Adenoids were no smaller. Audiogram showed slight improvement.

May 27, 1940. Audiogram showed some definite improvement. Advised sinus x-ray, secondary adenoidectomy. Told that intranasal antrotomies should be done at the same time if the antra showed involvement on the x-rays.

She never returned as a patient but I have seen the mother several times and she thinks the child is doing all right.

I feel that very much could have been done for this child if the parents' coöperation had been better. I know that she is much better off because of what little x-ray treatment she did get, however.

Case No. 6, J. R., Jr., white male, age 20.

September 2, 1940. P. I. Ears have felt a little "stopped up" several weeks.

P. H. T. & A. early in childhood. Adenoids recurred and had to be removed again a year or so later. Frequent colds nearly all his life. Audiogram taken seven months ago showed about 10 or 15 db. loss of hearing in right ear and slightly less in left ear. Much more loss for high tones. At this time I advised re-check later and x-ray treatment if it got worse.

P. E. Ear drums slightly retracted. Large septal spur to left posteriorly. Mirror exam showed moderate amount of lymphoid regrowth in tonsil region on left. Granular pharynx. Sinuses transilluminated well.

Audiogram showed hearing loss to be about 10 db. more in nearly all notes than on previous audiogram. Advised x-ray to nasopharynx.

December 5, 1940. Started on x-ray treatment (Dr. Bethea reported x-rays showed some lack of development of mastoids with some sclerosis around the auditory canals.) He took ten treatments, the last one April 22, 1941.

March 31, 1942. Was on his way to join the U. S. Navy. He felt that the x-rays had restored his hearing entirely to normal and that he was much less susceptible to colds following the x-ray. Audiogram showed much improvement over the pre-treatment and some improvement over the original audiogram. Examination of the ears was negative. Postnasal mirror showed a very small amount of lymphoid tissue in the midline of the nasopharynx. This is the oldest of my patients who showed definite improvement.

Case No. 7. T. W. G., Jr., white male, age 17.

P. I. March 31, 1941. Recurrent attacks of deafness. Just recovering from abscesses of left middle ear which had been opened ten days before and resolved in about three days. Ears both felt obstructed.

F. H. His father's aunts were all deaf. One was moderately hard of hearing and two others were deaf from early childhood.

P. H. Frequent attacks of catarrhal deafness nearly all his life. Three of these attacks were relieved only by adenoidectomies. (T. & A. early in life and two secondary adenoid operations.) Frequent attacks of sinusitis, at least one of which was allergic. (50% eosinophils in nasal smear made by me, January 28, 1939).

P. E. Both antra were hazy on transillumination. No sinus tenderness. Nasal mucosa red and congested. Small buried tonsil remnant on the right side about the size of a pea. No adenoid tissue could be felt by palpation. Both drum membranes were red and retracted. Audiogram taken. Weber lateralized to the left. Left ear much worse probably because of recent abscesses. In view of the history of frequent deafness and recurrence of lymphoid tissue I advised x-ray treatment.

He had four daily x-ray treatments by Dr. Bethea in Jackson the first week in April, 1941, and one two weeks later.

May 15, 1941. Both ears ran a short while after the first series of treatment and then his hearing was much better. Had had a head cold for the past three days, since when the hearing had been worse again. Both drum membranes were red and retracted and had air bubbles behind them. Even with this acute catarrhal otitis media his hearing was much better than before his x-ray treatments.

June 2, 1941. Fluid was still present in both middle ears. Both auditory tubes inflated with benzedrine.

June 3, 1941. Fluid still present. Audiogram about the same as last time. Advised more x-ray treatment.

August 25, 1941. Had his last x-ray about a month ago. Present complaint was external otitis of right canal, but ear drums looked normal. No fluid in middle ears.

September 20, 1941. Recurrent attacks of external otitis since last visit but no flare-ups of middle ear trouble, and hearing had remained all right. Canals were doing nicely.

April 23, 1942. At my request he reported for audiogram. Said ears were doing fine and that his hearing seemed perfect. Ears did not feel obstructed. Had had a head cold for the past three months, but it was better. Both ear drums were red and contained air bubbles. Audiogram showed considerable improvement over previous testings even with the fluid present. Inflated. Hearing showed so much improvement with the fluid present that I believe when I am able to clear up the fluid he will hear much better still. Nasopharyngoscope showed no adenoid tissue at this time.

Case No. 8, F. A., white female, age 22.

April 9, 1941. P. I. For about a week her ears felt more stopped up than usual and hearing has been worse than usual. There has been some tinnitus, but it has stopped now. Left ear seems to be the worse.

P. H. Has thought she was a little deaf for years. History of frequent earaches all her life. None recently. Is subject to frequent spells of hoarseness, usually without objective signs. T. & A. early in childhood. No family history of deafness.

P. E. Sinuses transilluminated well and were not tender. Slight congestion of nasal mucosa but good shrinkage was obtained with benzedrine inhaler. Ear drums were not red but were retracted. Bag inflation was successful but made the left ear feel more obstructed. Tonsils were out well. Nasopharyngoscope showed many dilated blood vessels just anterior to each tubal orifice. There was a small mass of adenoid tissue in roof of nasopharynx, none overlying tubal orifices. No pus seen. Both tubes catheterized. There was slight obstruction of the right and very much obstruction of the left tube. Advised x-ray therapy to nasopharynx.

March 28, 1942. Has taken x-ray treatment almost every week or two since last April. Still has frequent earaches, frequent acute attacks of nasopharyngitis, and obstructed feeling in ears. Ear drums are still red, retracted and tubes are rather tight on inflation. Audiogram shows some definite improvement. Both tubes were inflated immediately after the last audiogram and it was rechecked. Hearing was five to ten decibels better in all notes of both ears showing that her poor ventilation in both ears is still keeping her hearing down somewhat. I don't feel that we can expect much more improvement from x-ray in her case. I am thinking of trying prostigmin injections.

Case No. 9. H. L. S., Jr., white male, age 13.

April 23, 1941. P. H. Frequent head colds just about all his life, usually followed by deafness which would hang on for weeks or months. Occasionally had had discharge from the ears. No F. H. of deafness. T. & A. several years ago.

P. I. Constant head cold for the past six or seven weeks. Deafness since he first took the cold. No fever at present. Some yellow discharge from the nose. Got up from the German measles five days ago.

P. E. No sinus tenderness. Good transillumination. Nasal mucosa moderately red and swollen but shrunk well. Pus was seen in posterior part of both nasal cavities. Both ear drums were red and retracted. Tonsils were out well. Slight redness of oropharynx. Examination with nasopharyngoscope showed considerable adenoid tissue and some pus in ethmosphenoidal recesses and in nasopharynx.

Audiogram showed an average of 30 db. loss for voice range, slightly less for lower notes and slightly more for higher notes.

Laboratory: 9,000 W.B.C. 4,250,000 R.B.C. 80% hemoglobin, 24% lymphocytes, 9% monocytes, 68% neutrophils, 2% eosinophils, and 1% transitionals. Urine was normal.

Sinus x-rays showed pansinus cloudiness.

Treatment: Given a Proetz treatment with ½% ephedrine in normal salt solution. Cod liver oil-malt tonic and isotonic ephedrine nose drops.

April 29, 1941. Cold has improved but not his hearing. Given another Proetz treatment and x-ray treatment to nasopharynx and to sinuses advised.

April 30, 1941. Started on x-ray therapy by Dr. Bethea in Jackson. To get it once a week.

May 20, 1941. Had had no more x-ray treatment because of red measles. Thought he could hear a little better though. Both ear drums were still retracted. Nose looked better. Proetz treatment given.

June 24, 1941. Had had three treatments to ears and sinuses since last visit to me. Ears looked less retracted. Nose looked normal. Nasopharynx seemed normal with mirror. Audiogram was almost normal. Advised a little more x-ray for good measure to sinuses and nasopharynx.

August 20, 1941. Doing fine. Audiogram normal. No clinical evidence of any sinusitis. No more x-ray advised but should recheck on audiogram in six months. Advised to take cod liver-malt preparation all winter.

Case No. 10, Miss L. W., white female, age 45.

September 23, 1941. Left ear has felt stopped up and deaf for several weeks.

P. H. Frequent attacks of catarrhal otitis media for at least three years, occasionally in the right ear but more often and worse in the left ear. Tinnitis is very annoying. Frequent attacks of sinus trouble all her life. Postnasal discharge has a foul odor at times. Sneezes a lot and thinks she may have hayfever (one sister has hayfever. No other F. H. of allergy.) Tonsils have been removed three times, the last time by me on June 10, 1941.

P. E. No sinus tenderness, good transillumination. Slight nasal congestion. Pale mucosa. No adenoid tissue seen with mirror or nasopharyngoscope. Left tube catheterized and inflated and was a little tight. Fluid seen behind left drum membrane. Tonsils have not recurred any more. Advised x-ray in the hope that it might help her sinuses and possibly her eustachian obstruction.

She took x-ray treatments from September 30, 1941, to March 30, 1942, with very little if any real improvement in her subjective symptoms. Her hearing is slightly better in the right ear and slightly worse in the left.

This patient was not the proper type to expect good results for x-ray treatment. The approach should have been endocrine, biochemical or allergic, or a combination of the three. In the past I have given her suprarenal concentrate with good results for a while for her postnasal discharge. Dr. Jarvis' biologic diet also helped her but she gave it up after a month or two.

SUMMARY

Ten cases of impaired hearing that were treated with x-ray were reported. Seven cases (70%) showed fine results, two (Nos. 7 and 8) showed some improvement in hearing but still have tubal obstruction, and one case (No. 10) showed slight improvement in hearing in one ear and diminished hearing in the other.

The cases that had the most improvement were the ones that had recurrent adenoid tissue or history of repeated adenoid operations. The younger cases seemed to be more suitable than the older ones.

CONCLUSION

1. Children with impaired hearing and recurrent adenoid tissue should receive the benefit of irradiation therapy, either by radium or x-ray. Good results may be expected.

2. Children with impaired hearing of the conductive type and without demonstrable adenoid tissue should be given the benefit of a trial x-ray treatment.

3. Adults can not expect much benefit unless there is excessive adenoid tissue.

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DISCUSSION

DR. W. R. BETHEA (Jackson): Dr. Caruthers has brought to our attention a most timely subject, one that is both instructive and constructive. I have had no results in medicine that have been so appreciated by the patients as relieving the progress of catarrhal deafness in adults and restoring hearing in the younger patients.

Cases to be treated should be carefully selected by the otorhinolaryngologist and the radiologist in a combined study. The methods described by Dr. Caruthers should have, in addition, a very clear radiograph of the sinuses and mastoids from which one can draw a conclusion as to the condition of the mucous membrane and of the bony structure or bony walls of all the sinuses and the amount of otosclerosis that might be present. These facts are important points in prognosis, as well as coming to a conclusion as to treatment.

The cases that respond best are those of lymphatic blocking, especially where it has accumulated around the tube opening. Those with thickened mucous membranes are slower in response, and those with otosclerosis and under-developed sinuses and mastoids may get a wonderful development and growth in both the sinuses and mastoids if the proper treatment is instituted. This will take time to accomplish results, in that small doses will be used to stimulate the growth and development of the sinuses.

Much has been said about the dangers of this treatment. The dangers can be summed up in two statements. The first one is inadequate equipment or improper choice of reagent; the second is inexperience or lack of knowledge of the reagents used. Now, as for the equipment one should have a deep therapy outfit, not less than 200,000 KV; the proper filters; the proper cones; and in addition to this, should use an opening cut in lead to fit the individual case. One should have sufficient experience in radiology in the use of either x-ray or radium to know his own results and effect on the tissues radiated. The patient should be thoroughly protected from every angle, so far as the glands about the face and neck are concerned.

The technique I use is given with a 200,000 KV penetration and about 60R in children to 150R in adults. This is given for one to four successive days, depending on the conditions found after studying the radiograph. The lead openings are placed over the areas to be radiated, the ears or the sinuses; and angles are used that will avoid any direct radiation on the pituitary, which is covered by lead, or over the thyroid and parathyroid, which are also covered by lead. Over the mastoids, the rays are directed downward through the ear; over the frontals, the rays are directed from above downward with lead or silver eye protections in position; and also from the lateral position through the antra and through the mouth directly backward over the posterior adenoid region, with the rays passing through a small-sized oral cone that is placed directly into the mouth.

In answering the question by Dr. Guyton as to pituitary damage, I will say that in all of my cases, the pituitary has been thoroughly protected from direct radiation, and only a small amount of secondary radiation can reach the pituitary, which is negligible in its effect. I have watched some of these cases closely over a period of 18 or 20 years, and there has been no untoward effect from treatment of sinuses or mastoid regions in any case. The number of cases treated is not directly at hand, but I should think that they range in the neighborhood of 500.

The duration of treatment in the lymphatic type of blocking is about three or four months, and the duration in the thickened mucous membrane and sclerotic types ranges from a period of six months to two years.

The results in children are very gratifying, in that they restore the hearing and increase the growth of sinuses to normal, or at least above what they would be in infected cases. In adults, if there is not too much sclerosis, they relieve the hearing, stop the infections, or check the progress in the catarrhal deafness cases; and as a rule, they do not progress further. The adult cases as a rule take much longer to treat than the children, for many of them will not follow up the treatment sufficiently to get the results. One might obtain better results with larges doses, but it is my opinion that it is from the larger doses that one might get into serious trouble with future radiation results combined with the results from the inflammatory tissue.

The necessity for repeating treatments is brought about by re-infection of the cases. The x-ray does not produce any immunity to future infections. Therefore, infections may occur of the same nature and need to be treated. I have many of these cases report that they are much more resistant to colds than formerly. I think this is due to the clearing up of diseased mucous membranes and establishing better drainage from the sinus cavities and better growth and development of the sinuses themselves.

At this point I would like to discuss the much debated question of the two reagents to be used: radium or roentgen ray. The therapeutic rays from these two agents are identically the same, so far as the effect on tissue is concerned. Therefore, the advantage or disadvantage lies in the convenience, economy, and thoroughness of the distribution of the therapeutic ray. From a standpoint of convenience, in adults, there is little to choose from. For the nervous children, roentgen ray is by far the best tolerated. As for economy, the expense of travel, staying over a longer period of time, and returning oftener will make the roentgen ray probably as expensive as the radium applications, and maybe more so, but there are other advantages which will overbalance this economy side of the question. Now, as to thoroughness, there is to my mind no comparison, in that for a long time I have studied very thoroughly radiated tissue and its effect by both radium and x-ray. It was my privilege to study many of the specimens removed at the Baptist Memorial Hospital in Memphis, and I found that in uteri, for instance, where the walls could be thoroughly studied after the use of radium or x-ray, that due to the uniform spread of x-ray over the organ and the surrounding adnexa, the entire organ was radiated uniformly, and no necrotic areas of mucous membrane or cellular tissue were found after x-ray, but due to the fact that near your radium element, be it needles or whatever form used, in a zone beginning next to this element and radiating outward there is necrosis which is later followed by scar tissue in all cases that have a sufficient dose to produce much therapeutic value to an area as large as the posterior pharynx would be. Therefore, it behooves one to be very careful if using radium not to overdose and to be certain that his radium is properly filtered. One can readily see that, should too much reaction produce a necrosis in the pharynx and later the scar tissue contract and block entirely the openings of the eustachian tubes, the results would be very disastrous and practically impossible to remedy.

From the small doses of x-ray used in our cases, we never approach even a sufficient dose to produce redness. They are all small, stimulating, and under no circumstances do we anything like approach an erythema dose. As a comparison to dosage, as formerly stated, we use in children 60R to 100R units, and 100R to 150R units in adults of carefully measured x-ray. With this technique as a comparison in dosage, it will take 65R units to produce redness of the skin, so you see that we stay well within the safe margin. One thing that we can assure our patient is that if we do not do any good, we will not do any harm.

DR. CARUTHERS (closing)—I wish to express my appreciation for this excellent additional presentation to my subject. Thank you.

The Acute Abdomen*

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I DO NOT THINK there is any subject of greater interest and importance to the physician than the patient who becomes suddenly ill with acute abdominal symptoms. The ability to determine quickly and correctly whether surgical intervention is indicated quite often decides the fate of the patient. The acute abdomen is one pathologic condition encountered in the general practice of medicine in which quick thinking and sound judgment are of paramount importance, as the mortality rate, in most cases, is in direct proportion to the delay. In this paper only the most important and most frequently encountered surgical conditions will be discussed.

ACUTE APPENDICITIS

Acute appendicitis is by far the most frequently encountered acute inflammatory condition in the abdominal cavity and will therefore be considered first. According to Abell there are more than 20,000 deaths annually from appendicitis, which is conclusive evidence that patients afflicted with it do not come under observation to surgical treatment at a time when its relief is a simple procedure. Self-medication and ignorance regarding the significance of abdominal pain on the part of the patient combined with delay and difficulty in diagnosis by the doctor of unusual cases are largely responsible for this high mortality.

As brought out by Murphy, the symptoms of a typical attack of acute appendicitis, in chronological order, are pain, nausea, tenderness, fever, and leucocytosis; and when they do not occur in this order he questions the diagnosis. The pain is usually colicky in nature and generally reaches its height in four or five hours; it usually starts in the epigastrium or around the umbilicus, but may be diffuse over the abdomen, later becoming localized over McBurney's point. When the appendix is retrocecal, in position, the pain may be felt first in the right iliac or lumbar region. Nausea, which may or may not be followed by vomiting, generally appears early in the attack, from two to four hours after the onset of pain. Anyone in previously good health who suddenly develops nausea and complains of abdominal pain should be carefully watched for appendicitis. Frequent and severe vomiting indicate distention of the appendix, therefore the possibility of early perforation should be kept in mind. Tenderness over the site of the appendix is almost present from the onset of the attack, but at first may be diffuse and not marked, later becoming definite and localized over McBurney's point. Cutaneous hyperesthesia is present in about half of the cases, and rebound tenderness is usually present. Fever may or may not be present in the beginning, but nearly always develops in from four to twenty-four hours after the onset of pain. The temperature ranges from 99 to 101 degrees, but is more frequently under 100 degrees. A sudden drop in temperature with cessation of pain may mean gangrene or perforation. I have seen quite a few patients come in with the appendix ruptured saying they did not think it could be appendicitis because they did not have fever. The patient usually complains of constipation, yet many cases begin with diarrhea. The pulse is usually a little fast, but may be normal in every way; any decided or continued acceleration of the pulse suggests a severe toxemia, peritonitis or gangrene. Bladder symptoms may occur when the appendix lies in proximity to the bladder or ureter, and are due to contact inflammation.

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On physical examination there is rigidity of the right rectus muscles over McBurney's point except in cases where the appendix is retrocecal and then there is usually very little rigidity. The rigidity is usually in proportion to the underlying inflammation. The patient generally lies on his back with his thighs elevated and knees flexed. Pain caused by raising the right knee usually means a retrocecal appendix. Rectal examination is very important, especially in children, and a vaginal examination should be done when possible. The leucocyte count ordinarily runs from 9000 to 18000 with a relatively high proportion of polymorphonuclear leucocytes. If the blood count does not fit with the symptoms and physical findings then disregard the blood count, for it may be misleading; in other words, the blood count should be used to confirm the diagnosis and not make it.

The treatment of appendicitis is purely surgical, and the earlier done the better. I once heard Dr. J. C. DaCosta say that any man who would put an ice cap on a patient with acute appendicitis and not advise immediate surgery was more dangerous than a lion and should be put behind iron bars.

ACUTE CHOLECYSTITIS

Acute cholecystitis when typical is very easily diagnosed, but when atypical is easily confused with acute appendicitis, pancreatitis, and leaking peptic ulcer. In simple nonobstructive cholecystitis the attack may be so mild that it is called acute indigestion, and readily subsides under medical treatment. The pain of cholecystitis varies according to the amount of inflammation and whether or not a stone is attempting to pass along the cystic duct. Acute obstructive cholecystitis is usually ushered in by a sudden severe pain in the upper right quadrant of the abdomen or epigastrium and radiates to the inferior angle of the right scapula. Vomiting and constipation are nearly always present when the attack is severe. The temperature usually runs between 100 and 103 degrees, depending on the severity of the infection. The pulse is increased somewhat, but a very fast pulse indicates a severe toxemia. Jaundice is rare in uncomplicated cases. Local tenderness over the gallbladder is a constant feature and rigidity of the overlying muscles is usually present, but sometimes absent. The history of previous indigestion and inability to eat certain foods will help to make the diagnosis.

The proper treatment of acute cholecystitis still furnishes some difference of opinion, but I think it should be classed as an emergency just like an acute appendicitis and be treated as such. I think it is a mighty good rule that any intra-abdominal pain that lasts longer than six hours and is not relieved by ordinary measures is to be considered a surgical condition and treated as such.

INTESTINAL OBSTRUCTION

Intestinal obstruction continues to carry a high mortality due to delay in diagnosis and slowness in instituting proper treatment. Acute obstruction due to strangulated herniae was one of the first abdominal emergencies to be referred to the surgeon. Pain is usually the first symptom and is severe from the onset; nausea, vomiting, and constipation are always present. The above symptoms should always make a person think of intestinal obstruction until proved otherwise. The external obstructions in the form of strangulated herniae should give no trouble in diagnosis. It is the internal obstructions that give trouble, but one should never wait for the onset of symptoms that give undoubted proof of their presence for that is only losing time that may mean death for the patient. The three symptoms—pain, vomiting and constipation, with the absence of fever and leucocytosis—are enough to warrant a diagnosis of intestinal obstruction. The history of previous abdominal ailments, increased peristalsis, and a flat abdominal x-ray are helpful in the diagnosis. In children intussusception is the most common cause of obstruction; it is diagnosed by pain, vomiting, a palpable mass and bloody stools. There are many different types of obstructions and the symptoms vary according to the part of the gut obstructed; the higher up in the gut the obstruction is the more severe the symptoms. According to Abell, when confronted with obstruction during infancy, intussusception is the most common cause; during early adult life herniae and adhesions are responsible for the majority, while in late life carcinoma is the greatest causative factor.

The treatment of acute intestinal obstruction is surgical. The preoperative preparation of the patient is very important and depends on the condition of the patient when admitted to the hospital. The type of operation done also depends on the patient's condition and the cause of the obstruction.

PEPTIC ULCER

The term peptic ulcer includes both duodenal and gastric ulcers. The complications of peptic ulcer urgently demanding treatments are hemorrhage and perforation. Hemorrhage rarely requires an operation for its control, but does demand urgent and appropriate medical treatment. Perforation of a gastric or duodenal ulcer is a catastrophe which occurs with dramatic suddenness and is one of the most easily diagnosed acute abdominal conditions. The symptoms are violent, acute abdominal pain; nausea and vomiting may or may not be present. The patient appears to be in agony and is very apprehensive. Primary shock may be present or absent, the temperature is normal or subnormal and the pulse is normal until peritonitis sets in. The pain of a gastric ulcer is usually more severe than the pain of a duodenal ulcer due to the acid content of the stomach.

Physical examination reveals board-like rigidity of the abdominal muscles, which is very characteristic, and is usually not relieved by large doses of morphine. There is also obliteration of liver dullness and a shallow costal breathing. The history of sudden and violent epigastric pain, apparent shock, and board-like rigidity of the abdominal wall make the diagnosis very easy.

The treatment of perforated peptic ulcer is surgical; an immediate laparotomy should be done to stop the leak. Any lapse of time after six hours from the time of perforation gives a poor prognosis and after twenty-four hours the majority of patients die. I would just like to stress the idea of doing as little surgery as possible, merely stopping the leak, and not doing gastro-enterostomy or other procedures until a later date, unless it is absolutely necessary.

TUBAL PREGNANCY

Ruptured tubal pregnancy is not a rare condition and should be considered when discussing the acute abdomen. According to Cope it is the commonest cause of sudden death in young women who have previously been in good health. There is usually a history of the early symptoms of pregnancy along with a history of abnormal vaginal bleeding or spotting. When rupture occurs there is sudden, severe abdominal pain, with shock and collapse in proportion to the amount of hemorrhage. The pulse is weak and fast and the temperature subnormal. Vomiting may or may not occur. Bimanual vaginal examination reveals a soft and slightly enlarged uterus with tenderness on pressure in the cul-de-sac or pressure on the cervix, and according to Chipman this is an important diagnostic point. Severe hemorrhage from a ruptured graafian follicle gives about the same symptoms, except those of early pregnancy are lacking. The symptoms of tubal abortion are usually not so severe as a ruptured tubal pregnancy.

The treatment is purely surgical and an immediate laparotomy should be done to stop the hemorrhage just as soon as the diagnosis is made. It is quite often necessary to give a transfusion before and after operation.

ACUTE PANCREATITIS

Acute pancreatitis accounts for less than one per cent of acute abdominal diseases, but is one of the most serious and carries one of the highest mortality rates of all acute abdominal conditions. The onset is sudden with violent, excruciating pain in the epigastrium and loins. The pain is accompanied by all the signs of shock: pallor, cyanosis, cold and clammy skin, subnormal temperature, and a weak and rapid pulse. Vomiting nearly always occurs and jaundice appears early sometimes. The blood count may be normal but is usually increased. Local epigastric tenderness is always present and sometimes the pancreas can be palpated when there is no rigidity of the abdominal muscles. There is an increase in the diastase in the blood and urine; the urine normally contains from 10 to 20 units of diastase, but in acute pancreatitis it may be increased to 100 or 200 units. Acute pancreatitis is usually mistaken for perforated peptic ulcer or acute cholecystitis. The treatment is immediate surgery.

DIVERTICULITIS

Diverticulitis is an inflammation of any preëxisting diverticulum in the intestinal tract. The most frequent one seen is Meckel's diverticulum which is located in the lower ilium above the ileocecal valve. The symptoms of diverticulitis are pain, nausea, vomiting, localized tenderness, rigidity, and an increased leucocyte count. They so closely resemble the symptoms of appendicitis that it is impossible to distinguish the two conditions until opening the abdomen. The treatment is purely surgical just the same as in appendicitis.

MESENTERIC THROMBOSIS

Mesenteric thrombosis is fortunately a rare disease. There is usually a history of previous heart disease and it generally occurs in men past middle life. The diagnosis is usually not made until after the abdomen is opened. The symptoms are sudden, excruciating abdominal pain and collapse. The temperature is subnormal and the blood count increased. The treatment is immediate laparotomy with resection of the involved bowel.

ABDOMINAL INJURIES

Abdominal injuries may be either open or closed. Open injuries do not give much trouble in diagnosis; the closed injuries are the diagnostic problems. The symptoms and signs of visceral injury are those of shock and hemorrhage—fast pulse, cold clammy skin, subnormal temperature, and increased respiration. If there is any doubt as to the injury on the inside, it is much better to do an exploratory laparotomy and find the trouble in time to do something for it than to wait until you can be sure—when it may be too late.

ACUTE PELVIC CONDITIONS

Acute pelvic conditions such as twisted pedicles or ovarian cysts and pedunculated fibroids are surgical emergencies. There is still quite a bit of difference of opinion as to the treatment of acute salpingitis. I would say that the majority of men deem it best to use conservative treatment. Personally I believe that if it is seen early, and by early I mean in the first forty-eight hours, that the tubes should be removed just like an acute appendix. If the case is seen after this time I think they should be cooled off and then removed. If this were done, you would be able to save the ovaries and later on all the suffering and disability of the so-called frozen pelvis.

CONCLUSIONS

I would just like to stress again the importance of the early diagnosis of acute surgical conditions of the abdomen for, as has been said before, the mortality is in direct proportion to the delay in operation. It should be remembered that pain is the chief symptom of the acute abdomen and that any pain that lasts longer than six hours and is not relieved by ordinary measures should be considered as surgical, unless proved otherwise.

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DISCUSSION

Dr. Hightower (Itta Bena): I am not going to take up much time, but I have been so profoundly impressed with the gravity of our responsibility regarding ruptured peptic ulcer that I want to make just one point. You know we learn by sad experience, and I made up my mind several years ago, after losing a case of peptic ulcer, that I never would let that happen to me again if possible. The point I wish to make is this: In ruptured peptic ulcer, the pain is so profound, the rigidity so marked and board-like, that morphine will hardly relieve it. You must relieve your patient of pain. He is going to demand it and it will require anywhere from $\frac{1}{4}$ to $\frac{1}{2}$ or $\frac{3}{4}$ of a grain of morphine, but the big point I want to lay stress on is that although that patient is relieved of pain he is not relieved of that board-like rigidity, and while Dr. Holmes brought out the point that we must not wait on these acute abdomens, placing the time limit at six hours, I would move it up to two or three in ruptured peptic ulcer. If the patient has had sufficient morphine to relieve that pain, if the rigidity is there, and especially if he has vomited as he usually does, you had better go right on in the abdomen and not wait six hours.

Dr. Holmes (closing discussion): Like Dr. Hightower, I think these acute cases should be operated as soon as the diagnosis is made. I said that the prognosis after six hours is not good. I want to thank these gentlemen for their generous and helpful discussion.

Dr. Gilruth Darrington (Yazoo City): The hour is late and at this stage of the program nearly every one is tired out so I promise I won't discuss very long.

The scope of this paper "Acute Abdomen" is so vast that I shall call attention only to a few points that might be worth emphasizing.

Acute perforated peptic ulcer is a subject that has always interested me. It has fallen my lot to have had a considerable number of these cases and I have never had a perforated ulcer in a female, why women with ulcer don't perforate, but rarely, I don't know.

Acute cholecystitis is a condition where there is a division of opinion as to the best course to pursue. That is whether to operate immediately or to treat palliatively until the fever and acute symptoms have subsided. I believe that most surgeons now prefer to treat it as a surgical emergency and operate at once avoiding the possibility of rupture of the gallbladder and also the possibility of it going on to empyema of that organ and subsequent liver damage.

In conclusion, when confronted with an acute abdomen where the diagnosis is not clear as to just what the pathology is, I think we should not hesitate, not wait until the diagnosis is obvious but to invade that abdomen as soon as possible. The time element is so important that delay is dangerous. Sometimes we are all going to open an abdomen that we think is acutely surgical and find no cause for the symptoms after we get inside. This we cannot help, we are doing the best we can for our patient and our conscience is clear.

I wish to congratulate Dr. Holmes on his able and interesting presentation of such a broad surgical subject.

Primary Treatment of Contaminated Wounds*

W. H. BRANDON, M.D.
Clarksdale, Miss.

The care and treatment of wounds is a subject that is of paramount importance to all surgeons today. The basic principle of healing must be thoroughly appreciated and all methods of treatment evaluated. In the treatment of fresh contaminated wounds, one must be thoroughly appreciated and all methods of treatment evaluated. In the treatment of fresh contaminated wounds, one must, firstly, consider whether the method used renders the wound aseptic; secondly, determine if the tissues are injured by the treatment, thereby slowing or interfering with the normal mechanism of rapair; and thirdly, make an evaluation of the clinical results.

The use of antiseptic or bactericidal solutions to kill bacteria in wounds is harmful. Some bacteria may be killed but the tissues are also injured, the injury varying from edema with minor cell death to tissue necrosis. Ether causes very little damage to the tissue but green soap is found to cause severe tissue damage. Contamination of wounds frequently occurs when the surgeon's mouth and nose are not covered.

The usual routine of treatment is as follows:

1. Treatment of shock, when present; opiates, warmth, transfusion, plasma.
2. Examination of wound, checking for loss of function; x-ray.
3. Thorough cleansing with green soap, approximating the wound edges where possible to prevent the solution carrying infection into the wound. Thorough

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*Read before Coahoma County Medical Association and Clarksdale Hospital Staff.

lavage of wound with normal saline. Débridement of devitalized tissue muscle, fat fascia. Sulfanilamide powder is frequently used in the wound. Several nerves and tendons are always sutured regardless of contamination, if seen within eight hours of time of injury. Tetanus antitoxin is given routinely. Sulfanilamide is a bacteriostatic agent of considerable worth, but should not be depended on entirely. Cleansing with normal saline and débridement must also be done.

The basic principles of wound healing are known to all of us. However, the subject is so vital that I hope to be pardoned for a repetition of some of the known facts.

Serum and blood rapidly accumulate and coagulate in the wound space. New capillary loops, cellular elements and wandering tissue cells soon migrate into the damaged area. Granulation tissue forms from these capillary loops, pulling the wound edges together as the fibroblasts mature. This process of normal healing is dependent on certain fundamental phenomena, tissue fluids and other substances. Deficiency of oxygen and nutritive substances in the relatively bloodless border of the wound may cause tissue hunger and anoxia followed by cell division and amoeboid activity of fibroblasts and endothelial buds. The lytic phase of wound healing now sets in and the phagocytes begin their work of removing the dead tissue. This is also called the lag phase, as the reparative stage does not begin until near the end of the lytic phase. Connective tissue cells and fibroblasts now invade the fibrin network in the coagulum which fills the wound space and the wound becomes firm as the maturing fibroblasts contract and epithelialization proceeds. Another factor which promotes healing is the centrifugal force which directs growing cells away from their own kind and into the plasma mass of the wound space.

Local factors influencing wound healing:

1. Phagocytosis and repair of a wound have a definite time relationship to the amount of destroyed or damaged tissue.
2. Vascularity of tissues: Wound healing in ischemic areas must depend on lymph spaces for exchange of nutritive and waste material. This exchange probably is effected through amoeboid motion for the ingress of cells and diffusion gradient for the exchange of ionizable substances. Any trauma affecting blood supply will consequently effect healing in direct proportion to the extent of injury to the blood supply.
3. The rate of healing to a considerable extent depends on the amount and type of the exudate in the wound space and surrounding tissue.
4. The number and type of infective organisms and foreign bodies influence greatly the rapidity of healing.

Diffusion between the blood stream and local tissue spaces preserves a neutral reaction for normal tissues. Acid metabolites accumulate in traumatized tissue and split protein products with an acid reaction are liberated when dead tissue breaks down, causing an increase of the acid pH. This increasing acidity causes neutrophilic leucocytes to flock to the wound area. Increasing acidity kills these neutrophilic leucocytes and macrophages are attracted. If the acidity is sufficiently decreased by the phagocytic action of the macrocytes on dead tissue, the inflammatory reaction recedes. If not, pus forms as the macrophages are killed. It is thus evident that chemotaxis plays a large part in the migration and life of the various cellular elements at the point of inflammatory reaction.

Systemic conditions influencing wound healing:

(1) tissue age. (Young tissues heal most readily. Old tissues are apt to show vascular changes which retard healing);
(2) the state of hydration of the tissues, as determined by water, electrolyte and protein balance in the blood;
(3) vitamin balance;
(4) the general state of circulation and blood picture, which affect the interchange of cellular and ionizable elements between normal and damaged tissues.

Cevitamic acid or vitamin C is the most essential vitamin in the healing process. Deficiency in vitamin C may cause rupture of the wound or a hemorrhage. Tensile strength returns slowly in a deficiency of vitamin C. The production and maintenance of intercellular substances, as well as the collogen of all fibrous tissue requires vitamin C.

The sterols are responsible for the selective permeability of cell membranes. Vitamin D is related to the sterols. The cell membrane changes its colloidal state from a water in oil to an oil in water emulsiod by the action of sterols and by this action both oily and aqueous substances may be taken into the cell selectively. Adequate vitamin D is therefore mandatory for proper wound healing.

"Sodium chloride is the most important electrolyte and is entirely responsible for the osmotic pressure of intercellular fluid. Accumulation of salt in tissues attracts fluid, edema develops and edematous tissue does not heal properly because of altered pressure relationships and insufficient ingress and egress of materials. Decreased concentration of salt in tissues causes a loss of fluid into the vessels with consequent tissue dehydration. Adequate fluid balance therefore depends on salt balance and both are very important in wound healing."

Protein is the most important colloid element of blood and as the quantitative level of blood protein is decreased, the osmotic pressure and diffusion gradient are so altered that fluid tends to leave the vessels and accumulate in the tissue spaces. Blood protein levels of lower than 5 mgm. per cent result in this type of edema. A high protein diet speeds up wound healing and almost eliminates the lag phase.

If a large vein is torn, it should be ligated, as the thin wall makes suturing difficult. If a large artery is injured, it should be sutured, if possible. If ligation is necessary however, the accompanying vein should also be ligated. This allows blood to remain longer in the involved area, giving the involved tissue more time to make use of it. Ischemic gangrene may result, if the artery is ligated, as the venous return channels are then greater than the arterial supply and the area is drained of blood.

Heat is almost universally applied to infected wounds, but some caution in its use should be taken. There are three disadvantages to the use of heat.

1. Local tissue metabolism may be increased to the extent that damaged vessels cannot furnish adequate fuel and gangrene may set in. This may occur most frequently in diabetic infections.
2. Increased tissue damage occurs because the injured vessels cannot carry away the heat properly and accumulative effect is obtained.
3. Local edema is increased from added capillary filtration due to heat. Cold decreases metabolic needs and may aid a damaged circulation. It will, at times, be more rational than heat.

Elevation of the injured extremity uses gravity to aid the flow of blood and lymph from the site of injury. The fundamental question as to whether the inflammatory reaction is due to bacterial action or is a defense mechanism has never been satisfactorily answered. Antibodies are said to be in edema fluids and the swelling may occlude tissue spaces and inhibit bacterial spread. But edema increases pain, decreases circulation, slows healing and may provide the fluid medium for the dissemination of bacteria. Elevation of the extremity reduces edema and makes the patient more comfortable. In elderly patients, the degree of elevation must be closely watched and tips of fingers or toes watched for circulatory deficiency. Elevation may cause pus to settle by gravity and follow fascial planes.

Cod liver oil is very stimulating to granulation tissue when applied to an open wound and discourages bacterial growth. Its action may be mainly due to the vitamin D present.

Certain oxidizing agents, as zinc peroxide, have been used in wounds to inhibit an aerobic growth. Certain bacteria grow best in an atmosphere of lowered oxygen tension and grow well in symbiosis because one organism uses up oxygen thus making an anaerobic medium for the other.

It has been suggested that every combat soldier be supplied with five grams of sulfanilamide, to be used in the event of injury.

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Modern Trends in the Treatment of Acute Intestinal Obstruction

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THE MODERN surgeon should feel justly proud of the advances made in the treatment of acute intestinal obstruction in the past ten years. I know of no other field of surgery which has made such a rapid stride. Various surgical centers have reduced their mortality rates by at least fifty per cent. Dr. Whipple, of the Presbyterian Hospital in New York, reports a decrease of 36.4% in the last ten-year period. The total deaths for our entire state from intestinal obstruction in 1930 was 219. In 1940 the figure was 128, a fraction under 50%. This comparison, although inconclusive, reflects a great improvement in our treatment. The operative treatment itself has changed very little and we must therefore ascribe it to more adequate preoperative and postoperative treatment. It is true that restoration of body fluids and the salt balance which has been championed so ably by Hayden and Orr, has attributed largely to this great improvement, but I am sure we all give credit to most of this advance to the work which has been popularized by Wangansteen, Miller, and Abbott, in intestinal intubation. To my mind the Wangansteen suction is the greatest boon to the surgeon that has occurred in the past decade.

Before discussing the treatment, it is well that we should first consider the diagnosis, for without an early diagnosis our mortality rate will be high in spite of adequate and proper treatment. The symptoms of obstruction, cramp-like abdominal pain, nausea, vomiting, and inability to pass gas or feces, are too well-known to warrant extended discussion, but I would like to stress once more the importance of the relationship of the pain to the peristaltic sounds. It is the constant and intimate relationship between noise and pain which is significant. The presence of intestinal colic is established by the occurrence of intesttinal borborygmi, heard with the stethoscope at the height of the pain. No other acute lesion of the abdomen is characterized by such a pathognomonic finding. To interpret the symptoms, distention and vomiting correctly, it is essential that one should always remember the significance of the ileocecal sphincter and valve. This valve-like structure prevents the regurgitation of the colonic contents back into the small bowel, yet it permits free passage of gas and fluid from the small bowel into the large. Hence, vomiting in small bowel obstruction is usually copious and frequent. In colonic obstruction it may be absent altogether, in spite of enormous distention. Enemas have long been used as a diagnostic aid. The results are often misleading and continued use of them in the presence of an obstruction is injurious. The scout film, with patient in supine position, often gives valuable aid as to the presence and location of the obstruction. It is essential to know the location of the obstruction in order to plan the operative procedure intelligently. The visualization of gas in the small intestine of the adult is distinctly unusual and ordinarily indicates intestinal stasis. Gas is only normally visualized where food or intestinal contents remain for some time. This rule does not hold true for children under three years of age. Fluid levels in the small bowel cannot be visualized with patient in supine position and they occur so rarely they are seldom looked for in acute cases. The x-ray findings should always be closely correlated with the clinical findings. One of the most important decisions we have to make after we have arrived at a diagnosis of acute intestinal obstruction is to determine whether we are dealing with a simple obstruction or one with strangulation and decay of the bowel. The first we can temporize with, the second we must treat heroically, for obvious reasons. To make this differentiation is not always an easy task. Generally speaking, the patient with a strangulating lesion looks much sicker. He has a "knocked out" appearance, is in shock. Illness is of shorter duration. The abdomen shows signs of peritoneal irritation, due to the escape of sanguinous fluid into the peritoneal cavity. In obstructions presenting only interference with the intestinal continuity, abdominal tenderness and rigidity are usually absent; whereas, in the strangulated type, we have marked tenderness and a definite rebound sign. The leukocyte count is usually higher in strangulation lesions. If the bowel becomes strangulated in a previously existing inflammatory process, the diagnosis is most difficult, and we must be guided solely by x-ray findings, distention, vomiting, etc.

TREATMENT

The ideal treatment of intestinal obstruction is surgical removal of the cause, provided the conditions of the patient and his surroundings permit such an undertaking. Unfortunately, they are rarely in good operative condition and I have therefore divided the treatment into three phases: (1) the preoperative, (2) the operative, (3) the postoperative.

There are several factors which should govern the preoperative treatment, however, there are basic principles which should be applied to all cases of obstructions. It should be an enviable rule to replace the fluid loss before the operation. In cases of suspected strangulation and obstructions of long standing this should include blood transfusions. The degree of dehydration can be rapidly estimated clinically by the facial expressions, dryness of buccal mucosa and tongue, extreme thirst, pulse rate, etc. Laboratory proof of dehydration is shown by high concentration of urine, high N. P. N., and low blood chlorides, if due to vomiting. The average patient will require at least two quarts of fluids intravenously before operative procedures are instituted. It is also imperative that decompression of the stomach should be obtained prior to operation and an indwelling tube left in the stomach during the operation to prevent aspiration. Other symptoms such as shock should be treated by dry or moist heat. Stimulants should be given according to indications. Oftentimes, the patient is so greatly improved by these preliminary procedures, he is lulled into a state of well being and tries to forestall the operation. It is well to warn the relatives of this anticipated improvement in order to prevent delaying operation procedures, which may seem to them unnecessary.

The choice of an anesthetic should be determined by the age of the patient, physical status, etc. Since the advent of sodium pentothal I have been using that agent almost exclusively. Spinal anesthesia should be used on selected cases. In simple obstructions the simplest operative procedure is the safest. The most serious bungling in the management of simple obstructions, results from attempts to perform the operation of election, when a simple decompression operation would suffice. This is particularly true of obstructions of the large bowel. If there is no definite indication as to the location of obstruction, a right rectus incision made near the midline will most frequently prove satisfactory. The majority of obstructions of the small bowel are in the distal portion of the ilium. Upon entering the abdomen, the operation should proceed in a gentle and orderly manner. Extensive handling of the bowel is not tolerated and should be studiously avoided. Inspections should begin at the ileocecal valve when practicable. If collapsed, it should be followed retrogradely to the obstructing lesion which is as a rule single. The division of adhesions, which have no part in the obstruction, is useless, time-consuming, and may well lead to perforation of the friable gut. When a gangrenous loop of bowel is encountered it must be resected or exteriorized to prevent a peritonitis. My own personal experience has been very disappointing and exteriorization of the small bowel with subsequent double gun-barrel fistula. With the proper preliminary treatment of blood transfusions, and deflation of the bowel, I prefer primary resection and anastomosis. Factors in the high mortality of the exteriorizing operations are: (1) infections of the abdominal wound and peritoneum, (2) digestion of the abdominal wall, (3) secondary operations necessary for closure, (4) exhaustion from loss of intestinal contents. When a resection is made it should be done with strict asepsis. Contamination or spillage is synonymous with failure. The popularity of enterostomies has waned in the past ten years in about the same proportion as the drop in the death rate of acute intestinal obstructions. In carefully selected cases it is still a life-saver. These cases fall into a group classed as late simple obstructions and also in those that for some reason decompression cannot be secured by an internal tube. High jejunostomies should never be performed except for feeding purposes. After the cause of an obstruction has been found and removed, it is useless and harmful then to subject a patient to an enterostomy as was so often done a few years ago. Statistics show that this increases the mortality. The safety of an enterostomy as a surgical measure has been wrongfully emphasized in the past. Its limitations and complications are fast being realized.

The Wangansteen suction and the Miller-Abbott intubation techniques, have completely revolutionized the postoperative treatment. They are not only life-saving measures, but also add greatly to the comfort and smooth convalescence of the patient. The levine tube, in a great majority of the cases, will suffice. If, however, distention persists, a Miller-Abbott tube should be inserted without delay. If an anastomosis has been performed, it is much better to use the Miller-Abbott tube to insure absolute decompression of the bowel and thus protect the suture line. The indwelling tube is also of value in testing the return of bowel function. It may be clamped at intervals and liquids given to ascertain the tolerance of the bowel. Gastroduodenal drainage should be continued until it is evident from the character of the fluid obtained, from the disappearance of distention, and from the evacuation per rectum of feces or gas, that normal intestinal activity has returned. Repeated enemas and drugs intended to promote peristalsis are usually uncalled for. The same is true for purgatives until the decompressed intestine regains its tone and normal motility. Ochsner, and others, doubt the efficacy of pitressin, prostigmine, etc., in these cases. The water and salt balance must be established and maintained. In the first twenty-four hours this may require as much as 7,000 cc. A rough estimate can be made by the urinary output, the normal being 50 ounces per day. The average patient will require 3½ quarts of a 5% glucose in normal saline to maintain the proper balance. It should not be forgotten that hypertonic solutions themselves given in excess produce dehydration. Blood transfusions should be given if the case is protracted or if there is a strangulation of the bowel. With the abdominal distention, changes in the blood composition, the vital capacity of the lungs and oxygen-carrying capacity of the blood, are decreased. It is therefore, as advocated by the Mayo group, good therapy to administer oxygen to the critically ill patients. Heat cabinets are recommended to combat shock. Spinal anesthetics, to relieve distention, are only mentioned to be condemned, as they are ineffective and dangerous. There is a special group which Ochsner designates as the physiological — the dreaded acute paralytic ilius—which yields admirably to the Miller-Abbott technique. The so-called "plastic postoperative obstructions," that used to cause so much grief, can now be tided over by intestinal drainage and suction, until the bowel releases itself and regains its function.

CONCLUSIONS

I should like to re-emphasize the following points:

1. Borborygmus synchronous with intestinal cramps, usually indicates obstruction of the bowel.
2. Abdominal tenderness and rigidity with a rebound sign, indicates a strangulating lesion.
3. The visualization of gas in the small bowel of an adult is synonymous with obstruction.

You no doubt noticed the cartoon of a soldier showing a feminine friend through his camp. Noting the posters marked Battery B, C, etc., she demurely exclaimed interrogatively, "The batteries supply electricity to the shock troops, don't they?" The soldier falls out.

History of Medicine and the Fight for Truth*

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IN A DISCUSSION of a subject dealing with the science of medicine from its earliest history to the present, it will be necessary to refer to many events already known to the members of this society.

Medicine is the mother of the sciences and her first interest has always been the human body. Over a long period of the world's history, medical science has contributed information without religious or political prejudice. For many years, especially in the country towns and villages, the family physician represented about all the science known to the residents. Thus has been the position of medicine throughout the years in the lonely and unenlightened places.

Through the dark ages, from the time of Hippocrates, who was known as the father of medicine, there has been a constant struggle against religious bigotry and superstition. If a woman was afflicted with a humor, it was because she had sinned; if she was afflicted with epilepsy, it was because devils had entered the body; and paralysis was due to a lack of faith in the gods.

Even today, when we are supposed to live in the most enlightened age of all time, a day when medical science has passed far beyond the conceptions of the physician of forty years ago, we are faced with the claim of faith healers, Indian doctors, Holy Rollers and Christian Scientists. Hippocrates, who lived centuries ago, fought against the superstitions of his time and he was the first to look upon disease as having a natural cause. His description of a pathological condition was as follows: "A sharp nose, hollow eyes, collapsed temples, the ears cold and their lobes turned out, the skin about the forehead rough, distended and parched, the color of the face green, black, livered and lead colored." These symptoms were a clear indication of a death soon to take place and not due to evil spirits. Aristotle and Galen were followers of this thought and for fifteen centuries their writings controlled all scientific progress in that period.

Galen was an authority in the Middle Ages. He was born in Greece but lived in Rome and wrote in Greek. It is said that he lived in an age not unlike our own and some writer has said of him that "he was not unlike the fashionable physician of today—shrewd, meritritious, garrulous, boastful, incredibly disputatious and more often correct." "His practice included wine merchants, vestal virgins, emperors, generals, philosophers and gladiators." He gained much knowledge of anatomy from the dissections of animals and "for twelve hundred years the brilliancy of his rhetoric prevented men from learning at first hand anything about the human body." In that long period of the slumbering intellect of the Middle Ages there was no progress made in medical science until the coming of the Renaissance. Again science struggled against the teachings of an intolerant church. For superstitious reasons, human dissections were not allowed. The resurrection meant a great deal to those living in the middle centuries and the body would need all of its internal organs as well as the large bones in order to enter the heavenly home. Finally, a man by the name of Modino was allowed to make human dissections without boiling the bones. A Frenchman by the name of Vesalius took up the fight against the enemies of truth. In the deep night he would steal away the remains of criminals hanging from the scaffold and make a careful selection of those whose bodies had been picked clean by the buzzards and with this nice skeleton concealed in his laboratory, make his investigations. For this he was excommunicated and went on a long journey where he continued his work and wrote a book, *On the Fabric of the Human Body*. Wm. Osler once wrote on the title page of this book: "Modern medicine begins here."

Following the Renaissance, many began to wonder why certain changes would take place in vegetable and animal matter. Why did wine ferment and why did meat undergo a change under exposure or when taken in the stomach and digested? Ridi, an Italian, exposed the theory of spontaneous generation and a Frenchman, using the juice from an animal's stomach, demonstrated that the food was being digested.

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*Read before the thirty-ninth semi-annual meeting of the Delta Medical Society, April 8, 1942.

A name that has come down to us from our schooldays in the struggles with elementary physiology, is that of a young U. S. Army surgeon, Wm. Beaumont. Through a gunshot wound of the abdomen which tore away a portion of a man's stomach the young army surgeon was enabled to make his investigation. The edges of the stomach were stitched to the skin and through this opening the muscular walls could be seen in motion and the digestive juices pour from the glands. A piece of meat, tied to a string, was placed in the stomach and after two hours removed and found to be entirely dissolved. A sample of this juice was sent to the chemical laboratory at the University of Virginia and found to be hydrochloric acid.

A French physician, Reni Laennec, was very much interested in a more accurate knowledge of tuberculosis and one day noticing children tapping code signals by means of a long plank, received the idea of the stethoscope.

Later, it was left to Robert Koch to discover the tubercular bacillus.

Galen had a confused idea of the circulation of the blood and his theory prevailed for many centuries until the time of Wm. Harvey who discovered its true circulation. Servetus, scarcely known in history or medical science, a student of his church as well as of science, demonstrated that the blood is purified by being driven through the lungs by the right heart and returned to the left by way of the pulmonary vein. As a reward for this service he was burned at the stake by the order of John Calvin.

One of the unusual feats of early surgery was performed by Dr. Ephraim McDowell, a pioneer physician of Danville, Ky. This first major operation of the world was done in the year 1808 when he was first to enter that undiscovered field of the surgeon and remove a twenty-one-pound ovarian cyst. We do not know how he avoided infection. He did not handle pus and, more likely, was naturally clean. He is known to this day as the father of abdominal surgery.

Two other physicians, whose names go down in medical history for all time are the codiscoveries of the anaesthetic properties of ether—Morton and Long. The discovery of chloroform was made by James Y. Simpson, a professor in the department of obstetrics in the University of Edinburgh.

In the practice of obstetrics there was very little advancement made over the centuries, and even as late as 1817 it was considered improper for a man physician to attend a woman in childbirth. In the year 1522, Dr. Wirtt was burned at the stake for delivering a woman while he was disguised as a mid-wife. "He was a real medical martyr, attempting to discover what actually occurs at childbirth, for in those days medical men did not know."

There was probably a good reason for this prejudice against men obstetricians, for history shows that a large percentage of the women died from sepsis in the nineteenth century. It was in the year 1846 that a young physician becoming suspicious of septic infections, had all of the attendants in the hospital, fresh from the postmortem room, wash their hands in a chlorine solution. It is said that the death rate fell from 459 to 49 in the one ward in which asepsis was practised. "It was then that obstetrics passed from an art to a science and the use of forceps, podalic version, asepsis and anaesthetics became the means of preventing much suffering."

Fresh in the memory of all, we can not overlook the heroic efforts of those who risked their lives in a tropical clime and in insanitary surroundings to bring to the world the news of the cause of malaria and yellow fever. Scarcely over forty years ago the science of medicine struggled through a period of incompetence and ignorance. Especially was this true in the unenlightened sections where calomel was known as the "elixir of life" and enormous fly blisters were used over the abdomen in typhoid fever, then after a free collection of serum, mercurial ointment annointed the area so that the unfortunate victim would receive the full benefits of the "alternative." This is not a mere statement but an actual occurrence which I observed after my second year in medicine. Following this heroic treatment the patient developed a subnormal temperature but finally survived with the assistance of Providence and a more liberal diet.

The old country doctor, now a memory, has contributed much to science and it was through many of his suggestions gained from long experience that modern medicine has progressed so rapidly since that time. Even in this enlightened age, science still struggles against the intolerance of certain sects and creeds who seek to eliminate those facts found in botany, physiology, embryology and anatomy but, as in the centuries past, men press on ever in search of the truth. In all of the achievements, victories and struggles for knowledge men have sought for the truth. For the truth, millions have lived and died in an honest endeavor for the real things in life. No discovery of the cause of things was ever made but that the searchers went through the fires of persecution. The philosophers, the scientists, all in their way have sought for this knowledge. If we could wander back through the long and devious pathways of the human mind and sit at eventide under the olive trees where Plato taught and Aristotle disputed outside the gates of Athens; if we could stand amidst the ruins of the temple of Asclepiadae and envisage Hippocrites fighting against the superstitions of evil spirits and devils, or gaze on the classic countenance of Aristotle, the great liberator, or Galen, struggling through the shadows of an intolerant church; if we could stand in the solemn stillness of a great medieval cathedral and summon from the dark centuries of the Middle Ages the spirits of Aquinas and Abelard and commune with them on the high concerns of the soul; if we could stand over the last earthly remains of Huxley and Darwin, or sit in the seats of Koch and Jenner, or have pass in review the martyred forms of Wirtt, Servetus, Vesalius, Harvey and Galileo, there would come over our souls a vast humility and tolerance as wide as the ocean and as deep as the sky for the spirit of man striving down through the ages to know truth.

We could then realize that these few are only members of a vast company who have today also entered upon the eternal quest for the true things. We will discern that no race or sect or science or creed has all of the truth, but that the truth is like an ever-widening stream that grows and swells with the long lapse of the centuries so that to men one hundred years hence we shall seem as mere children stumbling along in the dark.

The writer is indebted to Dr. Logan Clendening's book, *The Human Body* for much of the material found in this paper.

The manatee is a large aquatic herbivorous mammal, the Florida variety is found on the lagoons of that state to Brazil. It is such a sluggish creature, mossy plants grow on its back. The body is clumsy, ending in a heavy, flattened tail which resembles a rudder turned horizonally. These creatures are harmless. They care for their young with true parental solicitude, the mother suckling her offspring at the milk gland under her flipper.

They are sometimes called sea cows, and belong to the whale family. Not creatures of beauty at all, they become tame to an extent.

Sharks and representatives of museums are their greatest enemies.

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This issue of the journal we call the Felix J. Underwood number. The journal deeply appreciates the service Dr. Underwood has and is rendering with all his faculties. This nation has no more outstanding man in the field of public health. He richly deserves the recent honor of being chosen president-elect of the American Public Health Association that came to him. There is no honor in the gift of American doctors or at the disposal of our government that he would not fill with distinction. The doctors and the people of Mississippi owe him a great debt of gratitude. The progress of public health in Mississippi reads like a romance and it is in a large measure the fruits of Dr. Underwood's vision and able leadership.

Let us have a line from our doctors in the service. We are interested in you, and we appreciate your sacrifices.

We are wishing for every subscriber to our journal, every reader, every advertiser, every doctor who has favored us with a courtesy card, every one who has contributed to these columns, a very merry Christmas and a happy New Year.

We are delighted to have a line from Dr. Chas. Lutterloh, president of the Mid-South Postgraduate Medical Assembly. He is now located at Army Air Forces, Station Hospital, St. Petersburg, Fla. He is happy in the service. Dr. Charles will do his part exceedingly well.

We greatly enjoyed a week-end visit from Dr. Seale Harris of Birmingham recently. He addressed the Rotary Club, the Prentiss County Medical Society, Blue Mountain College student body, and on Sunday spoke at the First Baptist Church of Booneville. Dr. Harris is the embodiment of Southern medicine and a prince among men in citizenship.

This journal and its editor very deeply regret the passing of Dr. B. C. Arnold of Jackson, Tenn., a past-president of the Mid-South Postgraduate Medical Assembly. He was able in his specialty and a princely man. No person could have a finer friend than Dr. B. C. Arnold.

Every doctor in the Mid-South sympathizes with Dr. and Mrs. Jere Crook of Jackson, Tenn., in the loss of their son in the service. He was a brilliant young man and making rapid advancement in the line of duty. Dr. Jere has a heart of gold that enters into the pleasures and joys and sympathies of his friends and the people he serves. On the surface he carries ripples of laughter; in the chambers of the heart, the currents of love and sympathy run very deep.

Dr. Harvey F. Garrison, Sr., is now the full fledged president of the great Southern Medical Association, the second largest medical body in the world. He is able in his chosen profession, sound in medical ethics, strong in organizing ability, and far-seeing in medical progress. We are proud of him and the honor that has come to our state through him. He will serve well as the leader of this great medical organization.

The Northeast Mississippi Thirteen Counties Medical Society had a splendid attendance at Tupelo on December 8. It was a treat to have Drs. Chaney and Morgan of Memphis as guest speakers at the scientific session and Dr. Underwood of Jackson at the banquet. Dr. B. C. Tubb of Amory was elected president for the coming year. Monroe had splendid material to chose from and we are sure that Dr. Tubb is most worthy of this high honor.

We recently enjoyed the meeting of the South Mississippi Medical Society. It was well attended. Quite a number of medical officers from Camp Shelby were present. We were deeply impressed with the bigness, cordialty, and practical mind of Col. Reed the surgeon in charge of the hospital. It is mighty good to go to Hattiesburg to a medical meeting. Dr. Green, nephew of the late Dr. Joe Green, presided as president and Dr. J. P. Culpepper is the efficient secretary. Dr. Green seems to have those fine traits of heart and mind possessed by his Uncle Joe, and Culpepper's ability and cleverness are recognized. He is now a member of the State Board of Health.

There still seems to be a question in the minds of some as to whether we shall have our state meeting or not. The actual decision in this matter will be left with the council. We certainly believe that every county, district and state meeting should go right ahead as usual. It is true that we have fewer doctors left in civil practice, but this makes it all the more urgent that we keep the latest in medical service in liquid form and flowing in all directions to the people left at home. All the doctors in a given community might not be able to go to all the meetings, but some can usually go and bring the message back to the others. As a rule when a man quits attending his medical societies he slips back in service. It will be possible for some military men to attend the state meetings. The meeting might be of service to them, and they can bring us a message that will be valuable.

This war will teach us many valuable things no doubt. Already personal friendship with the individual, the general practitioner plan of practice, is being utilized to great advantage. A personal study is made of each soldier, his anatomical make-up, his physiological functions, and his pyschological reactions in every way. He is studied in his every relation in the army and the ties that are holding and influencing from home. This return to individualized practice is going to be a great contribution to military medicine, while it magnifies the work of the general practitioner. Medical schools have gone far astray in their super theoretical, hyperspecialization, guinea-pig-by-number-and-chart plan of practice. The doctor of the future must walk and talk with his patient and know his thoughts, all of his relations in life, his physical strength and his God-given talents. He can then help build personal health assets and direct him in a manner that will make him happy and more useful. We believe the army is doing much work along this line right now. It is just as important to emphasize these principles at home. There is much to be gained by having our regular medical meetings in county, district and state especially. It will show a lack of patriotism if we fail to carry on, as we see it. Every effort of every person must be utilized for victory. The army needs the latest and the best, so do the people at home whose duty it is to produce. We must also keep the lines taut for medical democracy in the future by keeping our medical organizations in the lead for the world in medical education.

The year ending has been a year of great significance. Since December 7, 1941, nothing has been the same and perhaps never will be again. It is true that the awakening to this fact has been slow, but at long last the lethargy that seemed to have overcome our people has been shaken off. I have always believed that all wars are the result of human greed, for the most part for financial gain on the part of a small percentage of the population. Nothing in English literature is truer than Goldsmith's lines:

> Ill fares the land, to hastening ills a prey,
> Where wealth accumulates, and men decay.

When the bulk of a nation's wealth finds its way into a few hands, revolution is inevitable. And no revolution has ever come upon a people without great suffering and distress. At such times, it frequently happens that ambitious and selfish leaders seek to get control. And all too often they succeed. Conditions are much the same as they were at the beginning of World War I. As I see it, the leaders in German thought and government succeeded in deceiving their people into believing that they were destined to rule the world and that all other peoples could be made slaves to the Germans. With this belief they became blind followers of a few leaders, whose premature attempt to subdue other nations resulted in failure. But revolution had begun and could not be stopped. The common people were aroused and the elimination of the ruling classes was thorough and complete. All national (and perhaps most private) debts were repudiated. An unknown man, filled with hate for those who had failed to measure up to the demands of occasion, gained the attention of a drunken mob in a beer hall. He played his cards well and his fame spread and his following grew. The rest is history. I am sure this man was and is insane. He imagines himself great. No man was ever truly great unless he was essentially good. Inasmuch as all Germans have, for generations, been taught to believe that they are a superior race, they are filled with chagrin and humiliation at their failure. So they listened to the false promises of this new and self appointed leader. For two decades every ounce of German strength and ingenuity were devoted to organization and preparation to overthrow all governments and enslave all peoples. What was possible for men to do in this direction they did. By a system of propaganda that has never been equalled, they succeeded in drawing other nations into their program. They miscalculated, however, on a greater revolution in progress in the land of the hibernating bear. A superior race of people, neither recognized nor known by the world, was awake and astir. This people, the most hearty and courageous in all the world, were on the march. And when all is finished and if civilization still lives, it will be admitted that this people made it possible. Unaided and alone they made preparation to defend themselves against any and all comers. They were threatened from at least two fronts. Japan perhaps was the greater danger. But when struck by the super man this great bear awoke and stood and "walked like a man." In the meantime two men, as unalike as possible, had a vision and they promulgated a code that embraced the four freedoms. They had gained time because of the blunder of the super man and the heroic stand of the unknown bear. This precious hour was wisely and heroically employed, and it now appears that civilization may be saved.

But let us never forget that our cousins across the sea showed us and all the world how to stand and take it when not a sign or hope of success was visible. They manifested a courage and will to die for freedom that perhaps has never been equaled, and I trust will never be forgotten. Our own nation, the richest on earth, faces an uncertain future. It is plain that we must not only do our share of fighting, but we must feed and finance the United Nations. And after the war shall end we must be the bankers and guarantors for all the world. Everything will depend on the kind of peace terms that shall be made. But if any nation, man, or set of men, attempts to shape the affairs of the world after a selfish or greedy pattern, all the blood, tears and suffering will have been spent in vain.

* * *

Now what of medicine? When the war drums shall beat no more and when all of the wealth of the world shall have been expended and all men shall eat bread by the sweat of their own brows again, will medicine go on at present? Will state medicine prevail? Will true science be reverenced for what it is and has done? Will government or corporations control and dictate? If these questions shall be answered in the negative, it must be that our profession shall hold fast to the principles and practices that have been promulgated and fostered by our medical organizations. We must stand firm and weaken not. It seems that the fate and future of medicine are in the hands of the old and aging doctors since the youth and flower of the profession are in the service. We simply must not let them down. We must make any and all efforts and sacrifice to keep our societies alive and working. So let us resolve that the year of 1943 shall be remembered because of our keeping faith with our boys and ourselves. At our Houston meeting at the close of 1941, our young president said, "We leave all in the hands of the older men knowing that they will stand firm and hold fast until we return." Such faith and such trust simply must not be betrayed.

—G. S. B.

Our Doctors in the Service

Dr. Hugh K. Curry

Dr. Curry, in general practice with his father, Dr. W. H. Curry, in Eupora since 1936, volunteered in the Medical Air Corps in July. He was made a first lieutenant and assigned to Drew Field, Tampa, Fla. His service there has been interrupted by assignments for training at Carlisle Barracks, Pa., and Randolph Field, San Antonio, Texas.

Dr. Hugh Curry was graduated from the University of Tennessee Medical School in 1936, and then interned at Knoxville General Hospital for eighteen months. His charming young wife, the former Miss Inez Harpole, is an outstanding alumna of Blue Mountain College, where she made a singular record as a student.

News and Comments

Dr. Felix J. Underwood, Mississippi State Health Officer, was unanimously named president-elect of the American Public Health Association at the 71st annual meeting held in St. Louis, Missouri, October 27-30. Doctor Underwood will serve in 1944, succeeding the 1943 president, Dr. Allen W. Freeman, Professor of Public Health Administration, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Maryland. President for 1942 was Dr. John L. Rice, Health Commissioner of New York City.

Doctor Underwood, a native of Nettleton, Mississippi, began his public health career in 1918 as health officer for Monroe County. In 1921 he came to Jackson as director of the Bureau of Child Hygiene, serving in this capacity until July, 1924, when he was made executive officer of the Mississippi State Board of Health.

Long a leader in national and international public health, Doctor Underwood served as president of the Mississippi State Medical Association, 1919; president of the Southern Medical Association, 1931; first president of the Mississippi Public Health Association, 1937; president of the State and Provincial Health Authorities of North America, 1938; presient of the Southern Branch of the American Public Health Association, 1941; director at large of the National Tuberculosis Association, 1942. For the past three years he has been a member of the governing council and of the Executive Board of the American Public Health Association.

Twice approved by President Roosevelt as delegate to the Pan American Child Congress, Doctor Underwood was a representative at the seventh Congress held in Mexico City in 1935, and at the eighth in Washington, D. C., this year.

Doctor Underwood served for three years as a member of the Board of Scientific Directors of the Rockefeller Foundation, New York City, and is now a member of the Technical Advisory Committee on Public Health of the Commonwealth Fund, New York City.

Attending the St. Louis meeting were more than 4,000 members of the Association, as well as representatives from Alaska, the Philippines, Territory of Hawaii, Puerto Rico, Cuba, Central and South America, New Zealand, Australia, and the British Isles. The Association voted to meet in November, 1943. No announcement was made as to the place of meeting.

AN INDUSTRIAL HYGIENE UNIT DESIGNED FOR YOU

We have all heard that this winter would bring a labor shortage; that one of the most vital administration problems in Washington is centering in the Manpower Commission; that a seemingly academic problem known as "absenteeism" is a source of considerable trouble in highly industrialized communities. We here in Mississippi have been busy with our own problems and the difficulties of other people have seemed far away.

However, the local allocation of government contracts is rapidly increasing industry in this state. Already several areas have developed industrially to a point that health facilities of the entire community are stretched to the limit, and beyond.

Even though this extension of industry does not reach a stage of chaos in your community, surplus labor will be taken up either locally or migrate to adjacent communities where a shortage of employees has already pyramided the wage rate.

As workers on a defense front, these employees have become as important to the war effort as those on the war front. It is, therefore, essential that they be on their job every day.

Your State Board of Health, in collaboration with the Industrial Health Committee of the State Medical Society, has endeavored to anticipate these problems that either directly or indirectly involve the lives of all of us by a considerable expansion of the Division of Industrial Hygiene.

These services of the Industrial Hygiene Division, although they are new to Mississippi, are not services that are unique. They are offered to the physicians of almost every state in the union. Units of this kind have grown as the result of the need of practicing physicians for exact and detailed information to help them in the promotion of more effective services to the industries of the community that they serve.

In the old days medical service in industry meant being called in at the time of an accident to repair the injuries sustained by an employee. Now industry has found that most accidents don't happen; they are caused—caused by their own negligence in not having made suitable precautions, or by the employee's negligence. Therefore, safety committees have developed in almost every plant. Now physicians' services are requested not only for the treatment of injuries, but for their advice about how to prevent them.

How hazardous are the new chemical materials being used? What are the first symptoms that the foreman should watch for in determining whether any of his employees are being over-exposed to a toxic material? Is the dust in the factory from cutting and grinding harmful to the employees? Which dusts and in what concentration? What can be done to to prevent the contact dermatitis problem which flares up occasionally? Which applicants should the company reject for employment, and why?

The exact answer to many of these questions can only be arrived at by detailed chemical studies of the concentration of dusts or solvents in the plant, through the advice of engineers acquainted with these problems and who design the best methods for developing local exhaust ventilation, and by industrial toxicologists who are familiar with health hazards of various industrial operations.

Because the answers to these questions must be found and because the doctors who are still left to offer medical service to the community are increasingly busy, a separate bureau has been established in the State Board of Health to offer a free consultation service to physicians faced with these problems. All communications should be addressed direct to Wayne L. Ritter, M. D., Associate Director, Division of Industrial Hygiene, State Board of Health, Jackson, Mississippi.

It is hoped that in subsequent installments of the MISSISSIPPI DOCTOR space can be provided for ideas and questions as they relate to the health of workers in industry and an exact and detailed outline of the work of your Division of Industrial Hygiene developed for your information and greater coöperation.

Felix J. Underwood, M.D.
State Health Officer

Augustus Street, M. D., Chairman
Committee on Industrial Health
Mississippi State Medical Assn.

TO THE DOCTORS OF MISSISSIPPI:

The recent meeting of the Southern Medical Association in Richmond was one of the most interesting and I think one of the most profitable that we have ever had. It would seem that on account of the present world crisis that there is a greater need for medical men, who have the responsibility of the health of the people on their shoulders, to get together and exchange ideas and consult over new ones. Medicine is not unlike modern machinery. There are always new methods to be considered and evaluated. In our conferences with many of the leaders of the medical profession of our nation, we rather suspect potential danger to the medical profession in the future. It is well known that there is quite a shortage of physicians throughout many Southern states. Mississippi is chief among the states which responded loyally to the call by the Army, Navy, and Marines for physicians, and our people probably suffer more than others. To supply the needed medical attention is a rather serious question. If we admit a number of out-of-state physicians to our state, there are dangers that can arise from any plan of selection. It is well known that no physician can practice medicine without first obtaining a license from our State Board of Health. It is also known among physicians that our State Board of Health is selected by the State Medical Association, and the responsibility for selecting physicians who practice in this state is on the shoulders of the State Board of Health. I am convinced, however, potential danger lurks if too many physicians from the crowded districts of the North and East are admitted.

Doctors who come into the state now may remain here. Who knows but that many of our young physicians who have gone to the war now may return to find their places filled by out-of-state doctors? There is going to be an attempt made by the United States Manpower Board to allocate physicians to different places in our country. The War Manpower Commission in assuming their positions declare that their function would be "To ascertain the needs of the civilian population-non-military—for medical service;" and

It is stated that the Commission's actions have been approved by the board of trustees of the American Medical Association, but nevertheless one would be inclined to ask how will the medical personnel be provided—on a voluntary basis or by compulsion? We might ask: If compulsion is used, will it be only for the duration or will it lead us later into state medicine?

"The War Manpower Commission stated quite clearly in a recent release that "Plans for meeting the need for medical care in communities where a shortage of physicians has developed are being made now by the U. S. Public Health Service and by the Procurement and Assignment Service of the War Manpower Commission."

Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service, is quoted as saying "As a first step toward making the most of what we shall have left when the armed forces have been supplied with doctors and nurses, it would seem advisable for the War Manpower Commission to ration medical manpower just as the Office of Price Administration rations other essentials . . .. Certain numbers of doctors should be earmarked for the armed forces and left in their present work until called for duty. Others should be sent now to areas greatly in need of service and given enough facilities so that they would not have to do a saddlebag practice."

Mr. McNutt advocates an appropriation of federal funds for financial aid in medical care in areas where a shortage of physicians is prevalent. He has recently made the following statement: "Since these problems of furnishing medical care have been occasioned by the war, and in many instances transcend state lines, the federal government has a definite responsibility to coöperate with the states in meeting these needs by the provision, when necessary, of financial and technical assistance."

I am sure that the physicians of Mississippi will agree with me that right now before it is too late, we should begin to get our heads together and coöperate to the fullest extent with our State Board of Health and state health officers, if possible, to see to it that Mississippi is not invaded by a lot of outsiders and particularly that our government shall not establish and foster medical practices in our state, if it is possible for us to prevent it. When any of us are informed that new physicians are coming into a community, we should immediately get in touch with the State Board of Health and investigate the reason as well as the needs of such invasion. I am sure the physicians of Mississippi cannot be accused of being unpatriotic, and we will not be in this particular way, but we certainly do not want to have encroachments on our medical rights in this state by outside influences, and to this end offer this information that we may be alert for any of these dangers. Let us continue our medical society meetings and under no circumstances abandon the idea of having a state meeting. I see no reason why the physicians should not meet regularly; and I see every reason to encourage such meetings.

Sincerely yours,

Harvey F. Garrison

December 17, 1942

To the Editor of
"The Mississippi Doctor"

On October 14, 1942, I asked the officers, councilors and ex-presidents of the Mississippi State Medical Association to tell me what they thought of the advisability of pretermitting medical society meetings for the duration. Evidently some of the replies to my letter were based on a misunderstanding. I spoke of state and regional meetings, having in mind such regional meetings as Mid-South, Gulf Coast Clinical, Southeastern Surgical, and the like.

I did not mean to convey the idea that the county society—whether represented by a single county, or by a group of counties—should cease to function. Now more than ever is it necessary for the members of the profession to keep in touch with their colleagues to work for their own and for the public good.

Dr. Bryan writes that forty per cent of the physicians of his county are in service. From Adams County, fifty per cent of the white physicians in active practice are in service. The present critical shortage of rubber makes it necessary that every patriotic citizen use his car only in such manner as may further the war effort. Dan Williams writes: "Our people do not realize what we are up against." The majority of the replies received favor cutting out meetings for the duration.

As far as the educational and informative side of the state and regional meetings goes, the medical journals will continue to be published and I take it that physicians will continue to read them.

The officers and the council, and possibly the house of delegates, will have to meet to transact necessary business and keep the State Association in working order; but I feel that the patriotic physicians' place is at home taking care of the civilian population. As leaders in our communities we may set an example by not using our tires unnecessarily.

As for the social side of these meetings, I've derived as much pleasure as any member in renewing old friendships and making new friends, during the past thirty-two years. But the greatest world cataclysm in all history is not time for social pleasures. At this time our sons and brothers in services are risking their lives. Let us keep the faith with those of our colleagues who have donned the uniforms of our fighting services, some of whom have already made the supreme sacrifice, by doing our best on the home front.

—J. S. Ullman, Natchez, Miss.

FOR SALE

I have for sale for $100.00 the Fischer portable diathermy and electrocoagulation apparatus, type "G2," No. 1391. A handmade cart and table goes with the outfit. This machine was purchased in 1928 or '29 at a cost of $330.00. It is in good running condition, in fact, it is as good as new. My husband used it in treatment of his high blood pressure. It has a few attachments, and an electric wired leather-covered pad to lie on. I will expect the purchaser to pay the express on same.

—Mrs. Connie M. Hathvort
Amory, Miss.

THE TULANE UNIVERSITY OF LOUISIANA
SCHOOL OF MEDICINE

POSTGRADUATE COURSE
in
PEDIATRICS
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Mississippi State Medical Association

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James Grant Thompson, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary-Editor	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet	Third Tuesday 7:30 p.m.
Alcorn	D. W. Hamrick, Corinth	R. H. DeJarnette, Corinth	Third Friday, 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central Medical	R. B. Austin, Forest	James G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne		G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Marks	Guy R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	A. C. Hewes, Gulfport	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	F. M. Acree, Greenville	Sec. Wed. April & Oct., 2 p.m.
DeSoto	C. W. Emerson, Hernando	L. L. Minor, Memphis, Rt. 4	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Louisville	N. C. Knight, Meridian	Quarterly
Franklin	C. A. Everett, Bude	L. Costley, Meadville	
Issa-Shar-War.	Hugh Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	C. R. Senter, Byhalia	H. Phillips, Holly Springs	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday, 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	D. C. French, Water Valley	A. H. Little, Oxford	Third Wed., Jan., April, July, Oct.
Northeast Miss.	Stanley A. Hill, Corinth	A. J. Stacy, Tupelo	Sec. Tue., Mch., June, Sep., Dec.
Pike	J. M. Smith, Magnolia.	V. S. Holmes, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Miss.	H. G. Cook, Hattiesburg	J. P. Culpepper, Jr., Hattiesburg	3rd Tues., Mch., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	J. S. Eason, Coldwater	Second Wednesday
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazlehurst	Sec. Tue., Mch., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Fields, Centerville	R. J. Field, Centerville	
Winona District		S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

EYE

CHEMOTHERAPY IN OPTHALMOLOGY — J. H. Bellows, Ph.D., M.D., Transaction—American Academy of Ophthalmology and Otolaryngology, October, 1942, pp. 19.

This paper is one of the most important in the ophthalmological literature of 1942, and begins with a discussion of the new substances obtained from molds, fungi, and bacilli. Penicillin, gromicidin, and tyxocidin actually kill organisms whereas sulfonamides are merely bacteriostatic.

The first reports of the use of these in diseases of the eye are not encouraging, but so little work has been done with them to the present time that not much could be hoped for as yet.

Investigation of the four most commonly used sulfonamides shows that sulfanilamide yields the highest concentration in the blood and ocular tissues and fluids. The concentrations of sulfathiazole and sulfadiazine in the eyeball are, with the exception of those in the cornea and sclera, below the value accepted for chemotherapeutic effectiveness (should be between 5 and 10 mg. per cent.)

Investigation as to the best method of administration shows that following a single dosage, all the drugs with the exception of sulfanilamide reached a higher concentration by oral than by local application. Due partly to its greater solubility and small molecular size, sulfanilamide when applied topically reaches a concentration on the eye more than ample for chemotherapeutic effectiveness. Depending on the infecting organism, of course, sulfathiazole, sulfapyridine, or sulfadiazine, can be used, and the concentraiton increased by application of heat, or mecholyl, or by paracentesis, or by inflammation resulting from infection.

Another method, not yet completely investigated, of increasing the penetrability of sulfonamides is through the use of agents which lower surface tension, such as bile salts, aerosol, etc.

The use of the sulfonamides is not without danger; cases have been reported of optic neuritis, transient myopia (due to certain not-yet-understood changes in the lenses), and small retinal hemorrhages. Recent work by Dr. Bellows indicates that in the absence of normal epithelium, sulfonamides cause a severe injury to the cornea, a delay in healing of the epithelium, and vascularization of corneal scars.

Because of this toxicity, oral administration should not be utilized indiscriminately but reserved for serious conditions. Nevertheless, local applications are not always indicated for superficial infections, for it has been conclusively proven that oral administration is many times more efficacious in trachoma.

The action of sulfonamides is known to be inhibited by secretion and detritus so commonly associated with ocular infection, by local anesthetics and by factors inherent in the avascularity of the cornea. Sulfonamides given orally are effective in ocular complications of erysipelas, gonorrheal ophthalmia, trachoma, lymphogranuloma venereum ophthalmitis, serpent ulcer, cellulitis of lids and orbit, endophthalmitis, panophthalmitis and sympathetic ophthalmia.

Although sulfonamides have proved to be the most important addition to the ophthalmological drugs since organic arsenicals, they should not be used indiscriminately.

PEDIATRICS

"THE KENNY TREATMENT OF INFANTILE PARALYSIS IN THE ACUTE STAGE"—James E. Dyson—Journal of the Iowa State Medical Society, 32: 297 (July) 1942.

The writer limits this discussion of infantile paralysis to the treatment of the symptoms of the acute stage, muscle spasm, pain and paralysis and the prevention of deformities.

Stiffness of the neck and rigidity of the spine have always been the most diagnostic symptoms. "This has frequently been followed by pain in the muscles of the part to become paralyzed a day or two later." The writer has done spinal punctures and repeated drainage of spinal fluid and has given codein in an attempt to relieve patients of this pain and muscle spasm. "Miss Elizabeth Kenny . . . applied hot packs to these aching tender muscles and found that they were relieved of pain in 24 hours. She concluded from her observations that spasm of muscle groups was a more important symptom than muscle weakness of an opposing group. Working on this theory she has applied hot packs to the tender spastic muscles and relaxed them, allowing a weakened opposing muscle to function. She contends that muscle spasm is not relaxed by immobilization in a cast, that in fact immobilization over a long period causes muscle atrophy from decreased blood and lymph circulation. Furthermore, if this immobilization is done with the muscle in a shortened resting position, a fixation results after the cast is removed which will not allow full extension of the muscle again. This causes limitation of motion of the part and contracture. A good example is the treatment of the deltoid paralysis with the aeroplane splint. When the arm is let down the deltoid is frequently found to be permanently shortened. Immobilization causes fixations which frequently require weeks of physiotherapy to correct. Another cause of fixation is fear of pain. If the muscle is tender the patient abandons voluntary use of the part.

"Passive motion of the affected parts is undertaken not only to improve muscle nutrition but to maintain the joint sense and neuromotor association. Miss Kenny calls this neuromotor dissociation mental alienation. She advocates passive motion of the affected part through a partial arc of its normal motion throughout the acute stage. She thinks a state of muscle incoördination exists, and very early directs the patient's attention to his individual muscles. She teaches him the origin and insertion of each muscle and the arc of its motion. She moves the limb through this arc of motion and then has the patient try the same to keep or recover the individual neuromuscular association."

"The prevention of deformities must be considered during the acute stage. There is a relaxation of joint ligaments in poliomyelitis and if a muscle spasm is allowed to continue unrelieved or if an immobilization device is ill-advisedly used a deformity will persist or a dislocation may even result."

"Miss Kenny uses no splints or casts. The patient is on a flat mattress which is pulled up from the foot of the bed far enough to allow the heels or toes to extend over the end, depending on whether the patient is lying on the back or the stomach. A board is attached to the foot of the bed so the patient may rest the soles of the feet against it. Hot packs are applied regularly every day. Passive motion is used but no massage. Re-education is begun as soon as muscle spasm is relieved.

"Many cases of respiratory failure are due to muscle spasm of the intercostal and pectoralis muscles and hot packs have been used successfully to relieve this respiratory embarrassment within as short a time as 24 hours. The most important part of any treatment is exact diagnosis and that point is imperative in using this treatment. It will take the combined skill of the pediatrician, the orthopedist and the physiotherapist who are will trained and experienced in infantile paralysis to attain success. An early diagnosis of the location and amount of the involvement is necessary."

COMMENT

Sister Kenny has in a sense revolutionized the treatment of acute poliomyelitis. I feel that the above article would be interesting to the practitioners of Mississippi. There is no question of doubt about the effectiveness of the treatment given by her. We have been following this type of treatment for the six or eight months at the Polio Clinic, and it was our privilege to take some special work in Sister Kenny's treatment and receive the benefit of several lectures from other men who have been associated with her in her most recent work with this disease. We, therefore, feel that we can assure the physicians of our state that this treatment is being carried out at the Polio Clinic in Jackson in a most effective manner, but we would insist that these cases be sent to the Polio Clinic in the very acute stage because it is in this stage that the treatment is most effective.

We have a Kenny trained nurse and also a

Kenny trained physiotherapist, and they are both doing a splendid job in carrying out this treatment at the clinic. Of course, the follow up treatment of the physiotherapist is effective any time, but it is much more effective in the early acute stages.

State Board of Health

Felix J. Underwood, M.D.

Scarlet Fever Cases Up

The scarlet fever incidence in Mississippi has shown a tendency to increase since January. In every month this year the number of cases reported has exceeded corresponding months in 1941. It is noted that the increase has been state-wide rather than confined to any particular communities. Considering these facts, it may be expected that there will be still further increases in prevalence during the winter months. Although, on the whole, the disease has been occurring in a rather mild form there have been several cases. A number of the cases were not seen by a physician until two or three weeks after onset and as a consequence were potentially dangerous sources from which an epidemic might have occurred. Early diagnosis and treatment by a physician plus quarantine are essential in controlling this menace.

* * * *

Prompt Reporting of Communicable Diseases Important

It is pointed out that communicable diseases have a tendency to increase during war and since every physician is taxed to his full capacity in meeting the most urgent health needs of his patients, it behooves him to report cases of communicable disease promptly to local health officers in order that the health department staff may institute control measures immediately and thus avert any possible epidemic. A wide-spread epidemic of a serious disease could greatly hamper the war effort and add enormously to the burdens of physicians and health workers in their efforts to maintain health and fitness for the huge numbers engaged in fortifying this country against attack from the enemy. It is hoped that communicable diseases will be looked upon as the enemies they really are and that there will be no occurrence of an epidemic which might have been prevented by prompt reporting and the institution of proper control measures.

* * * *

Syphilis and Registrants

Physicians treating registrants, deferred because of syphilis, should report weekly to the health department the date and kind of treatment given each patient, points out Dr. A. L. Gray, Director of Preventable Disease Control. If this is not done, the registrant will be approached by the health department and required to report to a clinic. These men must take treatment and health departments have the responsibility to see that they do. However, it is not possible to contact every physician each week to determine which cases are being treated by him. Physicians must do the reporting and for their convenience a simple form on postal card is available through the health department.

* * * *

Industrial Hygiene Program

The need for an industrial hygiene service in Mississippi which would offer not only medical consultations, but also a detailed nursing, engineering, and chemical consultation has been apparent for many months. The allocation of government defense contracts has not only considerably extended the scope of industry in Mississippi but has also increased the number and diversity of potential hazards to the health of workers in industrial plants.

Dr. Wayne L. Ritter, P. A. Surgeon (R), United States Public Health Service, has been assigned to the Mississippi State Board of Health for duty in the development of a more extensive industrial hygiene program. Dr. Ritter served as Medical Director for RCA in Indianapolis from 1936 to 1942 and fully understands the problems incident to health in industry.

* * * *

School Health Service

A short time ago it was announced that the

State Board of Health together with the State Department of Education had planned for a joint program of health education in the schools of the state. It had been felt for some time that an excellent opportunity for health teaching at the point it would do the most good, namely at the school age level, was being neglected. However, inadequate facilities made it impossible to take full advantage of this opportunity. The General Education Board and International Health Division of the Rockefeller Foundation recognized the need for assistance, and in full appreciation of the value of a more extensive school program in the state, has granted an appropriation to support such a program.

The program being undertaken will attempt to integrate all health education activities in the state. Dr. D. V. Galloway will serve as medical director and will be assisted by Mr. D. R. Patterson of the State Department of Education as health coördinator and director of teacher training. Assisting Dr. Galloway and Mr. Patterson are Miss Mary Stansel, Nutritionist, and Miss Eleanor Hassell, Supervisor of Health Education of the State Board of Health.

This work was inaugurated in Lee County the week of November 20-26 where stock will be taken of health services now being rendered and attention will be given to instruction of teachers in all matters relating to the health and welfare of the child and the school environment. Stress will be laid upon more adequate preparation of teachers for teaching health. County health departments will be urged to encourage more nearly complete correction of physical defects following school health examinations.

Dr. Galloway, Mr. Patterson, and Miss Stansel attended the meeting of all the principals and superintendents in Lee County on September 8 and outlined the new program and received their endorsement. As a follow-up to this, the county superintendent of education and the county health officer wrote a joint letter announcing the program to the teachers and soliciting their aid. The teachers were reported to be interested in the program and willing to coöperate. It is planned to initiate a similar program in other counties in the near future.

* * * *

MALARIA CONTROL

Plans for the winter malaria control program in the war areas of Mississippi are being made, following a very successful fight against the malady during the mosquito breeding season.

Although the cooler, dry weather has brought a considerable decrease in anopheline density in the state, routine inspections of adult catching stations will be continued and larvicidal treatment made where necessary.

Entomological services performed by the state entomologists will include a study of hibernating habits of anophelines with some experimental work on this subject.

Reports on all light trap operations, which were terminated on November 14, will be compiled and identifications made in the state office of all such collections. When identifications are completed, the anopheline records for each trap will be summarized and compared with similar records for adjacent natural resting places. It is hoped that such a comparison will be of value in testing the efficiency of light traps for determining anopheline density in a given area.

* * * *

POSTGRADUATE STUDY FOR MISSISSIPPI PHYSICIANS

Dr. Barry Smith of the Commonwealth Fund has advised Dr. Underwood that he has recommended to the Fund's Board of Directors that a limited amount be included in the budget for postgraduate work for practicing physicians during 1943.

Physicians interested in being considered for fellowships for study courses at Tulane University School of Medicine should communicate with Doctor Underwood immediately in order that arrangements can be made to complete the necessary application and a time set for a personal interview. The fellowships will include reimbursement for tuition and necessary travel expense to and from New Orleans, plus modest stipend.

According to Dr. H. W. Kostmayer, dean of Tulane, definite arrangements have been made for an intensive course in pediatrics to cover the period January 25-28. Tentative plans have been made also for work in internal medicine and gynecology and obstetrics to cover similar periods, the dates of which have not as yet been fixed. The six-week refresher courses formerly given will have to be discontinued for the duration of the war, according to Doctor Kostmayer.

Physicians who are seriously interested in keeping up to date in the many important details of medical practice will find these refresher courses an excellent source of help and a stimulus for further growth in wisely applying the new knowledge which is constantly unfolding.

* * * *

PUBLIC HEALTH NURSING NOTES

Miss Mary D. Osborne, Supervisor, Public Health Nursing, reports that a conference was held and visits were made with Matilda Ann Wade, R. N., Washington, D. C. Director of Public Health Nursing Service of the Farm Security Administration, to perfect coördination of public health nursing services with the Mississippi State Board of Health program.

A conference was held and meetings were attended with Gertrude M. Dale, R. N., American Red Cross Consultant with special discussion of volunteer nurses aides. Three such classes have been completed in Jackson by twenty-seven white and twenty-six negro students.

A physiotherapist, Miss Teke Hoseaus, has been added to the Crippled Children's Service personnel.

Hygiene classes of twenty-five members taught by Ruth M. Robbins, R. N., were completed at Belhaven College.

The Mississippi State Nurses' Association held in Jackson recently elected: Miss Anita Gruchy, president, Miss Edna Harrington, Indianola, secretary, Miss Rose Keating, Jackson, treasurer.

* * * *

MISSISSIPPI PUBLIC HEALTH PERSONNEL CALLED TO THE SERVICE*

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DeJarnette, Dr. R. H.
Gibbons, Dr. G. E.
Gillespie, Dr. C. R.
Goodman, Dr. Rex
Hedmeg, Dr. Andrew
Hines, Dr. J. H.
Jones, Dr. R. J.
McGuire, Dr. J. C.
Nicholas, Dr. A. J.
Price, Dr. J. H.
Wilson, Dr. J. K.

SANITATION SUPERVISORS

Bradshaw, N. D., D. V. M.
Crowson, David
Dale, S. S.
Davis, H. R.
Edwards, Delmer
Ellis, Guy K.
Emery, Cy
Horn, Karl B.
Johnson, C. H., D. V. M.
Johnson, H. C.
Jones, H. M.
Oliphant, E. G.
Speights, H. L.
Spence, W. A.
Tucker, Frank Howard
Van Devender, Virgil
Sutphen, Jack
Sheppard, Eugene
Vaughan, H. L.

VENEREAL DISEASE INVESTIGATORS

Kraft, Edward C.
Hill, Luther W.
Hanry, J. S.

PUBLIC HEALTH NURSES

Cochran, Corinne
Hodges, Helen
James, Beatrice
Reece, Edith

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Garber, Lynn

DENTAL HYGIENIST

Shepherd, Sue

CLERICAL PERSONNEL

Russel, Flavia
Steen, Mariam

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Advisory Council: Dr. H. Lowry Rush, Meridian; Dr. Leroy Wilkins, Clarksdale; Dr. Henry Boswell, Sanatorium; Dr. J. P. Wall, Jackson; Dr. J. R. Hill, Corinth.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

Thirty members of the Northeast Mississippi Thirteen Counties Auxiliary were welcomed at the Tupelo Methodist Church annex in Tupelo for the December meeting, the president, Mrs. Stanley Hill of Corinth, presiding.

Highlighting the meeting was an address by Dr. David E. Guyton of Blue Mountain College, who paid a tribute to the doctors whose ideals the auxiliary members strive to uphold and help the laity to understand, then gave

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*This list supplements the one carried in *THE MISSISSIPPI DOCTOR*, June, 1942.

an excellent commentary on the war. His comprehensive viewpoint was optimistic but carried the definite opinion that Americans shall and must know the meaning of sacrifice. That civilization faces a more serious problem of making a peace that can endure than of achieving military victory, he believes constitutes a tremendous challenge to America. He pointed to Christianity as the only code of conduct in making a peace, citing the imperialistic intentions of French and English leaders, and the uncoöperative attitude of America toward Woodrow Wilson's peace plans at the end of World War I.

Dr. Guyton, an engrossing and thoroughly entertaining speaker, has from time to time written special bits of poetry for the journal. He is an outstanding historian and lecturer. His acceptance represented also the Doctors' Day observance by the auxiliary.

Mrs. H. C. Ricks, of Jackson, president-elect of the state organization, brought a well-worded greeting and inspirational message to the group, as follows:

"To justify our existence as an organization we must now accept the challenge which faces us.

"Doctors' wives and auxiliary members can set the examples of keeping fit, mentally, physically and spiritually. Even the most courageous and optimistic minds are staggered by what is taking place about us. Mental unrest can upset normal physical functions and weaken resistance to infection. Guarding against emotional upsets, such as anger, fear, doubt and worry insure more rest, less digestive disturbance, and general well-being. If listening to more than one news broadcast or reading the newspapers each day is too disturbing, then it is better to turn off the radio and read an inspirational or entertaining book.

"Rationing may be a blessing in disguise, actually promoting physical fitness. As a rule we eat too much; we take too little exercise. Rationing of sugar, cream, meat, and coffee is good insurance against our excessive food indulgencies. Rationing of gas makes us take more exercise. We may consider exercise as a tribute to the heart. The heart thrives on a good workout, and to be in poor physical shape for lack of exercise these days in unforgivable.

"Throughout history, periods of calamity have always led to renewed fervor for things spiritual. There is a tonic in prayer. Lincoln once said, "I have been driven many times to my knees by the overwhelming conviction that I had nobody else to talk to." Today we need to pray for wisdom and understanding—spiritual strength which will bring to our hearts a clearer conception of human brotherhood and feeling of obligation to our fellowman.

"Let us help our doctors at home and those who are in the service by being examples of good health."

At the business session the following new officers were elected for the coming year: president: Mrs. E. K. Guinn, McCondy; president-elect, Mrs. J. R. Williams, Houston; first-vice-president, Mrs. Stanley Hill, Corinth; second vice-president, Mrs. I. P. Burdine, Amory; third vice-president, Mrs. L. L. McDougal, Booneville; fourth vice-president, Mrs. W. H. Cleveland, Tupelo; secretary-treasurer, Mrs. W. L. Orr, Fulton; history of romance and medicine, Mrs. R. B. Caldwell, Baldwyn.

Following the meeting the Tupelo doctors' wives entertained the members with a delightful tea.

HONOR WIVES OF SERVICE DOCTORS

A tea honoring wives of doctors stationed at Gulfport Air Field and those on duty at the Naval Base was given early in the month at the home of Dr. and Mrs. Daniel J. Williams, with the Jackson County Auxiliary as hostesses. Mrs. R. C. Eley, Moss Point, poured coffee, and Mrs. C. A. McWilliams, Gulfport, served tea. The delightfully planned occasion was attended by: Mrs. S. B. McElwain, Pascagoula, president of the Jackson County Unit Auxiliary; Mrs. Mack Roberts, Mobile; Mrs. Robert Smallwood, Bedford, Ind.; Mrs. Leroy Kleinsasser, New Orleans; Mrs. Michael D. Baley, New Orleans; Mrs. Jesse L. Cochran, Carrol, Iowa; Mrs. J. C. Metts, Savanah, Ga.; Mrs. E. C. Lidikay, Indianapolis, Ind.; Mrs. William Rosenblatt, Washington, D. C.; Mrs. Robert Fales, Wilmington, N. C., all of the Gulfport post; Mrs. J. A. Hughes, Mrs. Charles Henry Wiggins, Mrs. H. Davidian, Mrs. F. X. Suraci, Mrs. T. J. Thomas, Veterans Hospital; Mrs. W. J. Wetherford and Mrs. S. L. Shaw, visitors, and Mesdames Joe Evans, James Lopez, W. M. Ransome, C. A. McWilliams, C. H. McCall, E. C. Parker and Daniel J. Williams, and Dr. Emma Gay, members.

This auxiliary, with Mrs. Cummings McCall heading the local committee on civilian relief, also served as hostess at the USO on December 6, and again later at the East Beach USO.

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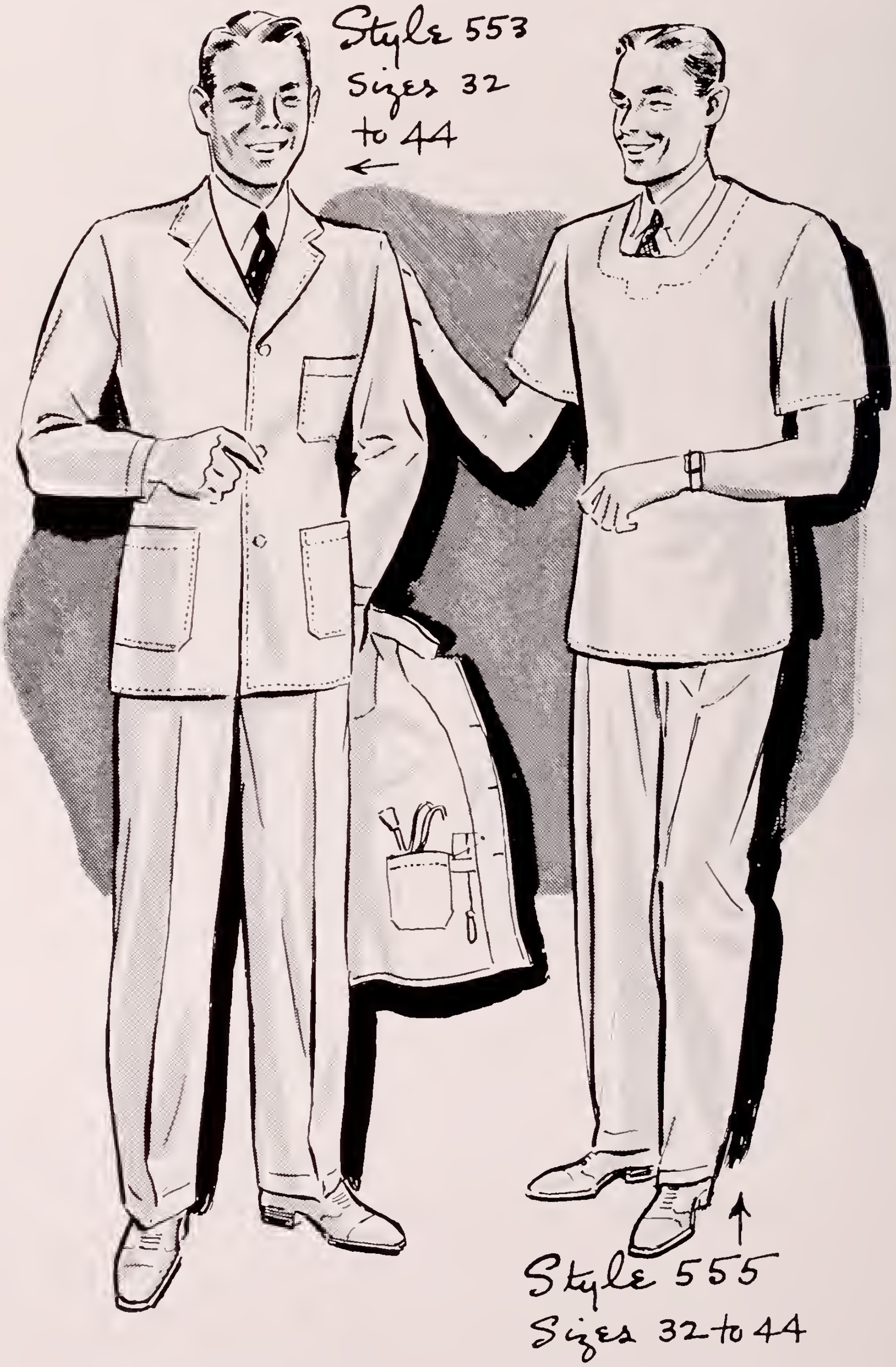
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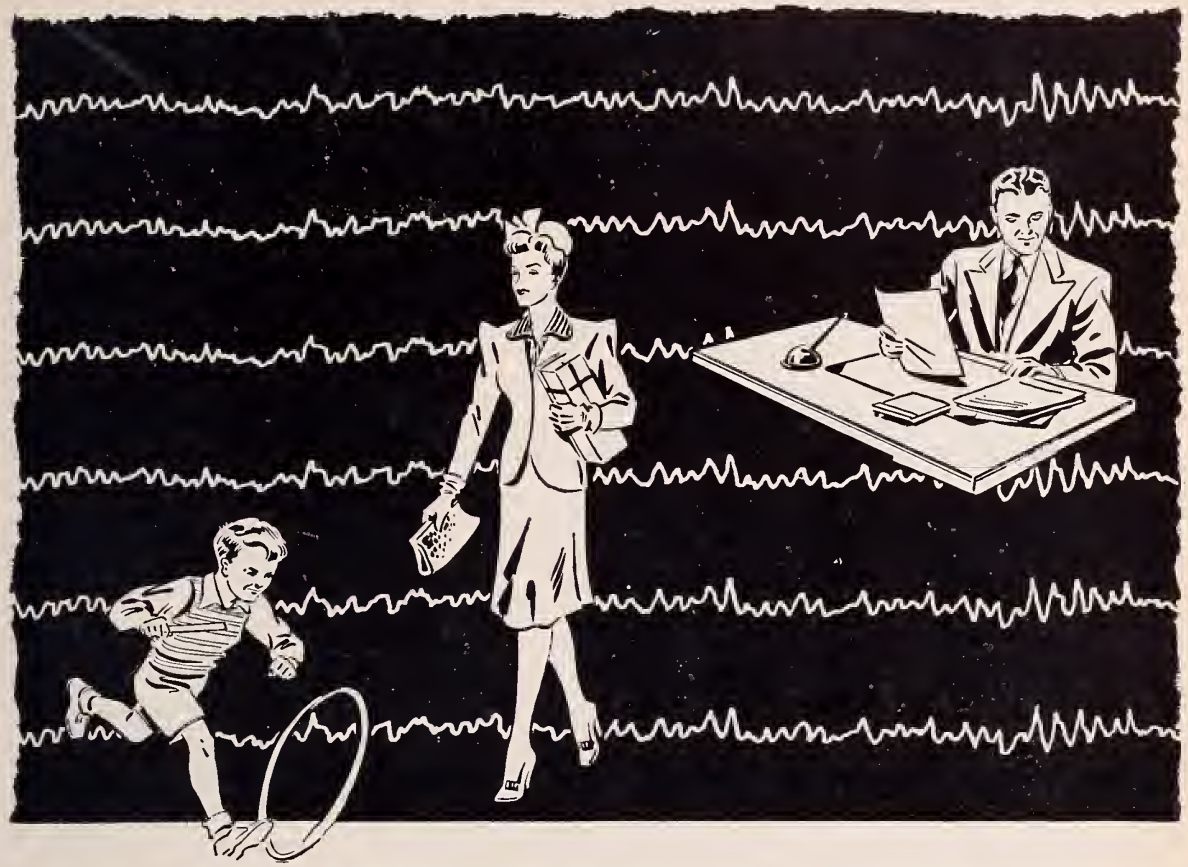

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[1] Palmer, H. D. & Hughes, J.: *The Penn. Med. J.*, Aug. 1942

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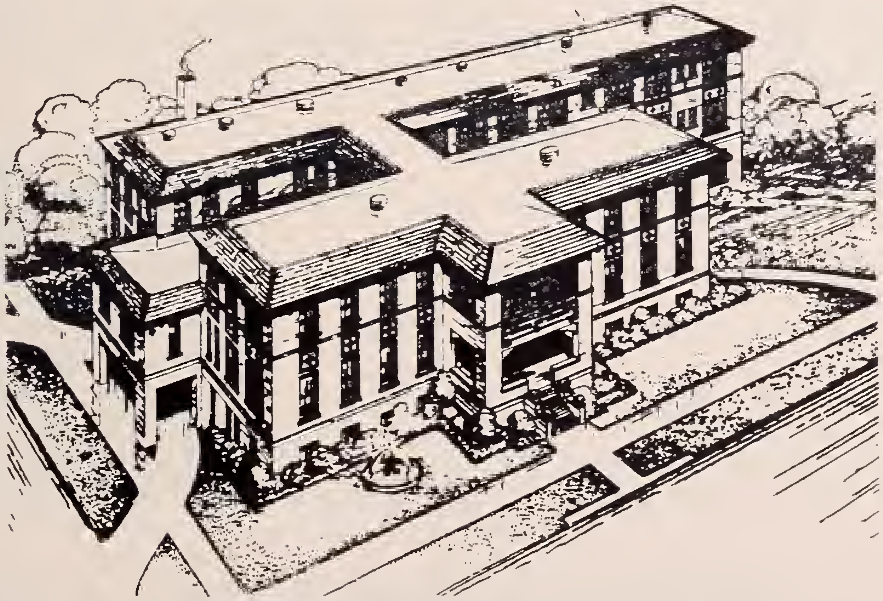

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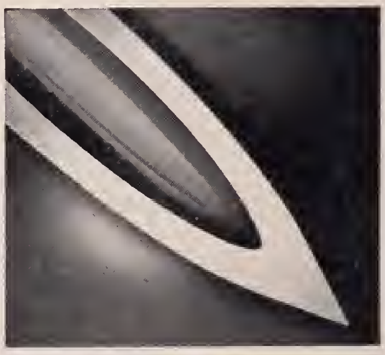

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The Mississippi Doctor

Published monthly at Booneville, Mississippi. Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870.

Practical Points in the Diagnosis of Early Hyperthyroidism*

WILLIAM CALVERT CHANEY, M.D.
M.S. in Medicine, F.A.C.P.
MEMPHIS, TENN.

MILD HYPERTHYROIDISM and hyperthyroidism in the elderly are frequently overlooked. People past the age of 60 very often become depressed rather than stimulated by an overactivity of the thyroid gland and have, therefore, been referred to as having "apathetic hyperthyroidism." In this discussion we shall not consider the very obvious cases of hyperthyroidism with marked exophthalmos. In these cases the diagnosis is easy. We shall consider borderline cases in which errors are made in overlooking them. Also there are many cases of enlarged thyroid gland and nervousness that are diagnosed as hyperthyroidism and treated by surgery or x-ray which are in reality cases of compensatory hypertrophy of the gland with probably a mild hypothyroidism. No one is able to diagnose these cases with 100 per cent accuracy, and, strangely enough, the larger percentage of error is on the side of diagnosing hyperthyroidism when in reality it does not exist, rather than in overlooking it.

To recognize mild hyperthyroidism we must keep in mind the possibility of an overactive thyroid in cases of hypertension, in patients who have occasional attacks of fibrillation of the heart or in cases of decompensation of the heart in which there is no other obvious cause.

To recognize the early cases and avoid the error of diagnosing hyperthyroidism when it is actually not present we must know those symptoms that are of the greatest value. The basal metabolism machine should be used to substantiate the diagnosis and not to make it. If you approach the problem of diagnosis by clinical methods that are of proven value, the metabolic machine will then verify your diagnosis. The physician who uses this machine to make his diagnosis will be wrong many times and may subject his patient to needless surgery.

What then are the diagnostic points of greatest value in recognizing mild or early hyperthyroidism? They are:

(1) persistent increase in body warmth, (2) loss of weight, (3) an increase in appetite, (4) demonstrable muscle weakness, (5) a stare, with or without exophthalmos, (6) bruits over the superior thyroid arteries, (7) a high pulse pressure, (8) palpation of the thyroid gland, (9) elevated basal metabolism rate in repeated tests, (10) cholesterol readings below normal.

In taking a history there are many points which should be brought out, but the three important ones are those mentioned, namely, a loss of weight in spite of an increase in appetite, and a persistent increase in body warmth. These people are hot all the time and need less clothes and fewer covers on their bed. There are only two conditions in which there is a loss of weight in spite of an increase in appetite. One is diabetes mellitus and the other is hyperthyroidism. Muscle weakness is usually demonstrated by having the patient step up on a chair.

Points of less value in the diagnosis are:

(1) atrophic, spaded nails, (2) a stimulated appearance as if the patient had run to your office, (3) a fine tremor of the fingers, (4) evidence of mild cardiac decompensation, (5) x-ray evidence of mild decalcification of the bones, (6) unexplained fatigue in the elderly.

Fatigue is seen in elderly people both with beginning hyperthyroidism and with early heart failure.

Of little or no value in the diagnosis are:

---

*Presented before the Northeast Mississippi Thirteen Counties Medical Society at Tupelo, Miss., December 8, 1942.

(1) rapid pulse, (2) nervousness, (3) hot flashes, (4) sensation of a lump in the throat, (5) sweaty hands and feet that are cold, (6) loss of weight with loss of appetite.

These points are of little value, because they are found in so many other conditions. The choking sensation is related to the emotions, rather than to hyperthyroidism.

We have made the statement that the metabolism machine should be used to verify the diagnosis and not to make it. In arriving at the degree of hyperthyroidism we usually consider:

(1) the appearance of the patient, (2) the rapidity with which he has lost weight, (3) the degree of quadriceps weakness, estimated by having the patient step up on a chair, (4) actual warmth of the body, determined by putting the hand under the patient's coat, (6) a carefully taken history.

At the present time surgery offers the best treatment for hyperthyroidism. X-ray therapy may be used in certain selected cases. Adequate medical treatment of these patients before and after surgery has already proved its value. To keep the mortality rate at a minimum, the medical treatment is as important as the surgical. About 3 per cent of the cases operated upon later on have a recurrence and in the past all of these have needed a second operation. Haines of the Mayo Clinic has shown that about 25 per cent of these cases of recurrence can be brought back to a satisfactory state of health by a wise use of Lugol's solution, rest and a proper diet.

Since in exophthalmic goiter and in a recurrence of exophthalmic goiter the gland pathology is the same, mild cases should be given the benefit of medical treatment, but this should not be carried out to the point where the patient's health becomes impaired and surgery becomes more difficult. A few of these mild cases treated medically will be benefited as well as could have been obtained by surgery. Medical treatment should consist of (1) properly prescribed rest, (2) Lugol's solution, (3) a high calorie diet, fulfilling all body requirements, five meals a day and foods rich in proteins, especially casein and also calcium, (4) cod liver oil, and (5) vitamin B complex for its effect on carbohydrate metabolism. The body uses tyrosine and iodine in building up the internal secretion of the thyroid gland: thyroxin.

Carcinoma of the Prostate Gland*

J. LOGAN MORGAN, M.D., F.A.C.S.
MEMPHIS, TENN.

CANCER OF the prostate is the most common form of malignancy. It occurs three times often in the prostate as in any other internal organ of man. About 14 per cent of all men past the age of fifty have a malignant prostate. The average age at which a diagnosis of adenocarcinoma is made is 66.

In 1936 Dr. John R. Caulk read a paper on carcinoma of the prostate at the Southwestern Branch of the American Urological Association. Quoting the first paragraph of his paper, he avers "Carcinoma of the prostate still remains resistant to practically all known methods which have been designed for its cure, and we are today simply endeavoring to combat its distressing symptoms and to postpone the time of death, but always hoping to produce a cure. I have never cured a patient with prostatic cancer, and I imagine you are in the same predicament. I have followed one patient for fifteen years, but he still shows evidence of cancer." The principal treatment for adenocarcinoma up to the time that Dr. Caulk read his paper was: transurethral resection, prostatectomy, radium implants, deep x-ray therapy, radon seeds, etc. In some patients with cancer of prostate we were forced to do a permanent suprapubic cystotomy for drainage in order to make it possible for the patient to get any relief from the marked tenesmus, frequency, urgency, and dysuria. If there is a cure for any type of malignancy it could only be hoped for when we make a diagnosis early and apply the proper treatment. This is especially true of carcinoma of the prostate. The sooner the tumor is recognized the better chance you have of curing or arresting its metastatic tendencies. Don't be misled into thinking that all patients with a malignant prostate have haematuria, for there is only a small percentage who will have any bleeding. We see more haematuria in benign prostates than we do in the cancerous type.

---

*Presented before the Northeast Mississippi Thirteen Counties Medical Society at Tupelo, Miss., December 8, 1942.

The chief complaints of these patients may be any or all of the following: nocturia, dribbling, frequency, difficulty, acute retention, dysuria, urgency, burning, feeling of weight and pain in lower abdomen, pain in perineal region sometimes radiating to glans penis, loss of appetite, haematuria, backache, loss of weight, lumbar pain, weakness of legs and pain in legs, and possibly edema of one leg.

Adenocarcinoma is the type of cancer most frequently found. In more than half of the cases it is seen in combination with adenomatous hyperplasia, but there is no direct evidence that they are related. In the early cases it is possible that the transurethral resection might not go deep enough to find the malignant tissue, also in the suprapubic or perineal prostatectomies it is not likely that you would remove all the carcinoma tissues, even in the very early cases, for the reason that malignant cells are found in the capsule which is left behind following most removals of the gland.

Unfortunately malignant prostates are usually well advanced when they present themselves for examination. The history obtained from these patients will closely fit into the symptoms outlined above. To get all the information you desire from an examination you would probably want to panendoscope your patient, x-ray pelvic bones, lumbar and sacral spine, lungs and femurs and, last but not least, do a rectal examination of the prostate. The trained sensitive finger in this examination is worth much. Rarely ever will an experienced examiner make a mistake in saying that a prostate is either malignant or benign from a rectal examination. It is true that occasionally one will have a borderline case which will require sections of gland removed for study, and as I stated before it is possible to get a benign report in face of a typical feeling malignant gland. Once in a great while we might get a report back of malignant tissue found in a gland that had the feel of a benign hyperplasia. Not so very long ago a doctor friend from out of town brought an old man to my office with symptoms of bladder neck obstruction. After a thorough urological check-up, including x-ray, etc., I told the doctor that his patient had a carcinoma of the prostate and that I arrived at this conclusion from the feel of the gland per rectal examination. I did a transurethral resection on this man and to my surprise the pathological report on tissue removed was benign hyperplasia. One year from this time it was necessary for the patient to return to the hospital to have some more of the gland whittled off, so this tissue showed that we were dealing with an adenocarcinoma. When one finds a board-like resistance to palpation, firmly fixed, or a definite nodule in the prostate of a man past the age of forty-five, usually in the sixties, one should make a diagnosis of a malignant gland until it can be proved otherwise, either from negative findings of tissue removed or after a number of years has passed with no active evidence of the extension of the cancer. Sometimes we find definite metastatic lesions distant from the gland before any clinical findings are present in the gland proper. The internist finds a suspicious lesion in the lungs that he believes to be metastatic in origin and asks the urologist to look for the primary lesion which so often is found in the prostate gland. This tumor is slow in growth and symptoms of its presence are delayed as a rule until the cancer is far advanced when recognized. I think every man past the age of forty-five should have his prostate examined rectally once a year in order to recognize these malignancies as early as possible and then institute the best accepted treatment.

Kahler found that 51% autopsied cases with tumors of the prostate recognized clinically or grossly were found to have metastasis at postmortem.

Needle biopsies are possibly of value in early neoplasm, but negative findings can not be regarded as conclusive. In questionable cases it is better to expose the gland through a perineal incision and remove the suspected nodule and have a frozen section examined.

Pathology of the prostate, with the exception of acute, subacute and chronic infections, we look for in men past the age of forty, and most of the men who seek medical aid on account of bladder-neck obstruction are men who have passed their sixtieth birthday.

There has been marked improvement made

during the past century in handling the operative part of prostate gland obstruction, but very little advance made in our effort of eradication of the hazardous effect of the malignant gland. From 1934 to 1939 approximately 31,882 men died in the United States as a result of malignancy of the prostate gland. Of this number 25 were sarcomas and the rest were adenocarcinomas, a ratio of 1 to 784. Bumpus, on reviewing 1,000 cases of prostatic cancer, found all in his survey over 42 years of age. Carcinoma of the prostate is a very slow growing tumor and rarely ever the patients have any symptoms referable to the prostate or neck of bladder, until the cancer is far advanced. Metastasis takes place fairly early into seminal vesicles, membranous urethra, bladder, and lastly to the rectum. In extensive metastases, we often find the sacrum, the lumbar spine, and chest involved and sometimes the long bones. There is hardly any part of the body that is immune to metastasis in generalized carcinomatosis. The carcinoma cells are usually carried by the lymphatics, but can extend through the blood stream.

In spite of radium, deep x-ray therapy, radical removal of the gland, etc., these patients will usually succumb to the disease in a short time after a diagnosis is made. During the past two years there has been much interest and research work on the testicular influence on carcinoma of the prostate. We have always known that carcinoma of the prostate was somewhat different from malignancies in other parts of the body. Also we have known that there has been a close relation between the testicles and the prostate. With this knowledge we have used testicular hormones in the treatment of senile prostatism. For the several years a great deal of effort has been expended in the use of sex hormones in the treatment of various dysfunctions of the genital organs, and the pathological prostate both benign and malignant. Of the hormones used possibly testosterone propionate and stilbestrol are the most used. Testosterone seems to reduce the congestion and possibly to shrink the benign gland somewhat, thus reducing the nocturia and giving the patient a sense of well being. This androgenic hormone did not have any beneficial effect on the malignant gland, but we were agreeably surprised to find that stilbestrol (which is a female sex hormone) is helpful in allaying some of the annoying symptoms manifested as a result of this type of tumor. Therefore stilbestrol has been used quite extensively in the palliative form of treatment for adenocarcinoma of the prostate.

In the July number of the AMERICAN UROLOGICAL JOURNAL, Schenken, Burns, and Kahle reported six cases of adenocarcinoma of the prostate in which they had given stilbestrol ranging from 25 to 67 days in which they compared the premedication carcinoma tissue with the tissue removed after a thorough treatment with stilbestrol. They found that there are definite regressive changes in the nucleus and cytoplasm of the tumor cells, and loss of mitotic figures. These patients had received a total dosage varying from 52.0 mg. to 95.0 mg. each.

At New York Institute, for study of malignant disease, Robinson, Gutman and Gutman found that the serum acid and alkaline phosphatase should be studied in all cases of carcinoma of the prostate. The phosphatase is an enzyme present in varying amounts in body fluids and tissues which have the ability to liberate phophate ions from a solution containing esters of phosphoric acid. The amount of phosphatase activity present is expressed in units, figured on the basis of so many units, figured blood serum.

The work of Kuscher and Walburg showed that prostatic tissue contains an extraordinary amount of acid phosphatase, whereas it contains only a small amount of alkaline phosphatase. It is also found that seminal fluid is rich in acid phosphatase. The amount of acid phosphatase in the tissues and the fluids of the body varies with age and the type of malignancy present. It was found in the laboratory that the acid phosphatase activity of the prostate of a pre-pubertal monkey could be raised to the adult level by the administration of testosterone propionate, thereby demonstrating that a high content of acid phosphatase is characteristic of mature prostate gland.

Gutman, Robinson and Gutman found a definite increase of acid phosphatase activity in blood serum of 37 out of 44 cases with metastatic bone changes due to carcinoma of the prostate, regardless of whether osteoplastic or osteolitic metastases were present. When the acid phosphatase is found elevated it is highly suggestive that the patient has a carcinoma of the prostate which has metastasized to the bones. This statement is based on the results of control examinations which showed that with rare exception does the elevation of the acid phosphatase take place in patients with prostate carcinoma without metastasis. Patients can have metastases to the bones without one being able to demonstrate it roentgenographically.

About two years ago, Dr. Huggins of Chicago decided to experiment on a few of these definite carcinomas of the prostate gland by eliminating any possible effect that the testicular hormones could have on this type of malignancy, so he began to do bilateral orchidectomies. He watched his patients closely following these operations and he was astounded and agreeably surprised to find that about 60 per cent of them improved rapidly and had an entirely different outlook on life. The ones who had lost their appetites soon began to eat and gain weight and the pains in legs, back and bladder region disappeared and the bladder-neck obstruction was relieved as the prostate returned to a normal feeling gland, with retrogression in size. Dr. Huggins has done more than 200 operations of this kind and Dr. Reed Nesbitt of Ann Harbor, about 100. Both of these men are highly elated over the results they are getting. The serum acid phosphate dropped to normal, or near the normal level, in all the cases which were benefited by castration in their series of cases.

CASE REPORT

Mr. J. D. H., farmer, age 72, was admitted to Gartly-Ramsay Hospital on March 2, 1942, in a semi-comatose condition.

PAST HISTORY: About 20 years ago had his spleen removed at Jackson, Mississippi. Six years ago one hand and one arm became numb with a slight paralysis, which lasted for almost a year. Had all of his teeth removed thinking that this might correct the disability in the arm. Up until November 1941 he looked after his large plantation and worked almost every day riding his horse over the fields, driving tractors, and doing practically anything he wanted to do. About the first of December 1941 he was taken to the Vicksburg Sanitarium, highly nervous and showing symptoms of uremia with high blood pressure and a diminished output of urine. On December 26 he had a convulsion which lasted for several hours and he was in coma at least a day or two. He gradually improved and left the hospital and went back to his plantation the latter part of January. In the middle part of February he was taken back to the Vicksburg Sanitarium and his family was told that he had a cancer of his prostate gland and there was no need trying to do anything for him, as it was a hopeless case. This time he became irrational and had symptoms of uremia. He remained in this hospital until he was brought to Memphis on March 2.

PHYSICAL EXAMINATION: His head and neck were negative. Pupils of eyes were equal and reacted slightly to light. Mouth was negative, except for a heavily dry coated tongue. Lips were dry with abrasions and crusts present. Chest was clear, no rales or friction rubs. Heart normal, but somewhat enlarged. Abdomen very much distended, so palpation could not be done with any degree of satisfaction. The urinary bladder was very much distended and a retention catheter was introduced for drainage. Prostate gland per rectal examination was enlarged and board-like to feel, firmly fixed, as that of a definite carcinoma. There was pitting edema in feet, hands and arms. History could not be obtained from patient as he was irrational. Blood pressure on admission was 220 systolic and 110 diastolic. Pulse 80, temperature 99, respiration 20.

LABORATORY FINDINGS: His urinalysis on admission: specific gravity 1010, albumin 2 plus, sugar negative, no casts, 20-30 red cells, 5-10 pus cells to h.p.f. with some clumping. N. p. n. next day after admission was 91 milligrams per 100 cc. of blood. Two weeks after admission n.p.n. was 57 milligrams. Four weeks after admission p.s.p. test first hour 10 per cent, second hour 14 per cent, a total of 24 per cent for two-hour output. April, which was two weeks after his orchidectomy his n.p.n. was 39 milligrams per 100 cc. of blood. Spinal fluid: cell count negative, globin negative, Kahn negative.

X-RAY REPORT: Hypertrophic changes in the lumbar spine, but no evidence of metastatic carcinoma. The barium enema was given with a great deal of difficulty. The colon was full of gas and could only be filled as far as the hepatic flexure. No disturbance in tone. No diverticulae or filling defects. Examination of the spine negative for metastases. Examination of the colon is negative.

TREATMENT: Retention catheter in bladder to relieve bladder-neck obstruction, intravenous glucose, b.i.d., pushed liquid by mouth, sulfathiazole for urinary stream infection. Cascara and mineral oil as laxative. The first three weeks of his stay in the hospital he had an obstinate constipation and an unusual amount of distention of the bowel, which necessitated keeping a colon tube in practically all the time. Part of the time a Wangansteen had to be used on account of so much abdominal distention. On March 20, which was 18 days after admission to hospital, I approached the family on the subject of doing a bilateral orchidectomy as a fair chance of stopping the progress of the carcinoma of the prostate and also the hope of some shrinkage of the tumor, which would permit elimination from the bladder. Up to this point the patient had certainly not shown any tendency toward improvement, so this operation was proposed as a last resort to do something that might change the situation. The family agreed, so on the following day, under spinal anesthesia I did a bilateral orchidectomy. In spite of inability to get coöperation from the patient due to his mental disturbance, I was able to obtain spinal fluid for examination and instilled 10 mgm. pontocane, which gave a perfect anesthesia. During the operation the patient's blood pressure ranged from 260 to 280 systolic, 140 to 150 diastolic. There was an uneventful recovery from the operation. Within a week after the orchidectomy the blood pressure began to drop to around 210 systolic and 98 diastolic and within another week his pressure ranged from 180 to 200 systolic and 80 to 100 diastolic. His general physical condition was noticeably improved, but mentally his status remained about the same. On April 5 I asked consultation with Dr. E. W. Cocke, in reference to the psychosis. His findings were as follows:

"From the history and present psychiatric findings I feel that there is a psychosis due to a cerebral arteriosclerosis. The prognosis, of course, is very unfavorable. The probability, if he lives longer, is there will be a mental deterioration. Treatment: entirely symptomatic with sedation." Nineteen days after operation the retention catheter was removed and the patient voided satisfactorily with no residual urine. On April 10, per rectal examination his prostate was soft, pliable and somewhat shrunk. At this time the prostate had all the feeling of a perfectly normal benign type of gland.

After conference with Mr. H's son and daughter we decided to send him to the Mississippi State Hospital at Whitfield, Mississippi, so on April 11 he was discharged to that hospital. I heard from his children twice during April stating that his general condition had very much improved and on May 2 I wrote to Dr. C. M. Speck, superintendent at the hospital there, and asked for a report on Mr. H's conditoin. On May 6 I received a letter from him stating that the patient improved mentally, emotionally, and physically and his blood pressure had come down somewhat. On May 28, I received a report from the children saying that their father came home from the sanitarium on May 24 perfectly normal physically, mentally and in every way, his appetite good and sleep sound.

Having seen a patient in a desperate condition from a carcinoma of the prostate as I had seen this man and then to see him make a complete change from a hopeless case to one who is up and going about and feeling normal again, it seems too good to be true.

It is too soon yet to say that carcinoma of the prostate is cured by doing a bilateral orchidectomy, but we do know that most of the cases who have had the operation have improved to the point where we feel justified in saying that we at least have a temporary cure or an inactivation of the cancer.

At the John Gaston Hospital we have castrated quite a few men who have a malignant prostate and from my own observation of these patients I am thoroughly sold on this manner of handling such cases.

We should not expect any benefit from the operation in patients who have very extensive metastasis, and who are almost moribund.

The earlier the diagnosis of a malignancy is made the better chance we have for a cure.

Certain Eye Observations*

D. E. STATON, M.D.
COLUMBUS, MISS.

TO MANY OF you the observations and report made on this first case are perhaps not new or unusual; in fact the manner of injury and kind of injury are quite common, but to me the substance with which the injury was produced is anything but common in my practice.

Eye injuries of one sort or another are, of course, nothing remarkable but because of the relative infrequency of eye injury caused from the alloy babbitt I am reporting this case of wounding of the cornea by this substance.

Babbitt is an alloy composed of tin, copper and antimony. In just what proportion these metals are combined, I am not sure, but babbitt as used in the trades is supposed to be a rather soft material as compared with steel, iron, glass, etc., from which we see many corneal wounds.

In this case a man was striking the alloy with a sledge-hammer to flatten it as it was in a large lump of approximately one pound in weight. On striking it a piece broke off and hit his right eye. Evidently a comparatively large piece had struck the eye as the impact had made an incision of about four millimeters in length at about ten o'clock on a watch dial. This large piece had fallen out after leaving several small pieces imbedded in the incision; in fact on examination eight particles were seen, four of them being easily removed with spud and loup but the other four were very small and could only be seen with the slit-lamp. These four were imbedded deeply in the wound against the posterior or endothelial layer of the cornea.

I tried unsuccessfully to remove these small pieces under the slit lamp but they were stuck tightly to the tissue. Babbitt being non-magnetic, it was impossible to remove them with a magnet. The question was whether to try further to remove them under the slip-lamp or let them remain to be encapsulated by scar tissue. Slit-lamp examination failed to show any dirt, grease, or other foreign matter adhering to the babbitt, so it was eventually decided to let them remain.

Two other ophthalmologists saw this case; one thought the anterior chamber should be opened and the particles removed from the posterior side, but that to me seemed inadvisable. The other, a man of many years' experience in ophthalmology, thought as I did that it would be best to let them remain, and that is what we did.

The question here was whether babbit, unlike lead and some other substances, would later cause inflammation or an unfavorable prognosis. This was a case of compensation coverage and it was necessary to advise the patient intelligently as the insuring company could not get a release on him if there was danger of subsequent trouble.

It has been approximately one year since this injury and there has been no sign of a flare-up of inflammation, so I think it fairly safe to say that babbitt, if free of foreign matter, will in all probability not cause late symptoms if allowed to remain in corneal tissue.

The next case I want to mention was a young white man twenty-four years of age who had the misfortune to injure his only good eye while cutting wood to build a fire. The other eye had been blind since childhood, so it was of paramount importance to make every effort to save this sole remaining seeing eye.

The injured eye was wounded when he struck the wood with an axe, a splinter striking the eye and making a punctured wound almost one-fourth of an inch in length on the temporal side, approximately one-eighth of an inch posterior to the corneal limbus. This sliver of wood must have entered the eye in a slanting manner from before backward or it would probably have injured the ciliary muscle or lens. It had stabbed through conjunctiva, sclera and retina as evidenced by a slow oozing of vitreous which was still in progress when the man reached me after traveling thirty miles from a nearby town. I had very little hope of saving this eye, but because of the fact that he only had this eye remaining with any sight at all something had to be done to save it.

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-fifth annual session of the Mississippi State Medical Association, Jackson, Miss., May 12, 13 and 14, 1942.

With a fine cutting needle and light, black silk, I sutured through the outer layer of sclera, making no attempt to include conjunctiva or retina in the suture, in two places which was enough to draw the edges of wound closely together. It was hoped that the retina would heal of its own accord and not leave any detachment from extravasation of blood or otherwise.

No doubt the sliver of wood was entirely free of bacteria or other material deleterious to the well-being of the eye, for much to my surprise the eye did well. The vitreous that escaped was no doubt of slight amount as the tension of the eye was lowered very little. The usual cleansing of eye and adjacent parts was done daily. Sutures were removed on the fifth day at which time the lips of wound were adherent enough so that it seemed safe to remove them. Patient was kept very quiet however, for ten more days before allowing him to turn himself in bed. The man was in good condition and apparently well on the twenty-first day, when he was allowed to leave the hospital. Two weeks later refraction showed 20 50 vision and thirty days later the refraction was 20/30 plus, which it now is.

Case No. 3: This little boy, nine years of age, was struck on the eye with a piece of hardened concrete thrown by a companion. The usual objective signs were present, with pain, redness, swelling, and blood in the anterior chamber which later stained the cornea badly. There was nothing of especial interest in this eye but three weeks later the other eye began showing signs of sympathetic ophthalmitis, as evidenced by photophobia, tenderness, some loss of vision and a slight haziness of the corneal endothelial layer. At this time another ophthalmologist saw this boy and recommended giving him twenty cubic centimeters of blood intramuscularly every three days, blood to be drawn from the boy's veins. This was done. There were no signs of hemorrhage going on at this time in the injured eye so there was no question of giving this blood to control bleeding, but the consulting ophthalmologist had read somewhere that it had a good effect in sympathetic ophthalmitis, so it was used for the sympathizing eye. How this does good is not perfectly clear unless it acts as a foreign protein and in that way has a beneficial effect.

Some of the best eye specialists recommend enucleation of the injured eye if the other eye develops a sympathetic inflammation. However, in this case because there was no open wound of the injured eye, we did not consider enucleation as being to the best interest of the patient, especially as the blood staining of the injured eye was beginning to show signs of clearing and it was possible the wounded eye might yet be the best eye of the two if the sympathizing eye should be lost, in spite of enucleation and treatment instituted.

No other treatment was used except atropine to dilate the pupil, and sodium salicylate by mouth in large doses; Gifford's recommendation of one grain per day for each pound of body weight being followed for three days when nausea developed and the salicylate was cut to ten grains three times per day. Five injections of twenty cc. of blood were given at the stated intervals of three days at which time the sympathetic inflammation was clearing rapidly and went on to complete cure without further trouble.

Possibly the salicylates did a great part for that eye but I feel that the blood injections were of more importance and I shall certainly try it again at the first opportunity. The stained cornea of the injured eye is clearing slowly but I hope in time will clear enough to at least have a normal appearing eye if no sight is present.

Case No. 4: Here was a man who had a pneumococcal ulcer of the cornea which gradually became worse under curettage and cauterization. This ulcer was curetted several times and then cauterized without being benefited, in fact it became worse until it covered practically the lower third of the cornea. He was getting by mouth twenty grains of sulfathiazole four times a day and drops of numoquin hydrochloride solution, 2%, four times a day. After eight days this was discontinued as he was getting progressively worse, and ten per cent sodium sulfathiazole solution used in place of the numoquin, sulfadiazine being substituted for the sulfathiazole by mouth. Under the change he showed distinct signs of improvement in eight days with complete cure after ten more days.

With other cases of ulcer of the pneumococcal type I have had better success with powdered sulfathiazole used locally dusted on the ulcer, a typical case of which is given here:

This was a pneumococcal ulcer of the cornea which had been treated by the man himself with 10% argyrol three times a day for four days. When seen by me he had an ulcer of about two millimeters in diameter at the upper inner quadrant of the cornea.

This eye was washed thoroughly with a warm boric solution until no pus was to be seen then powdered sulfathiazole dusted on the ulcer with a cotton wound applicator every two hours for four days except at night when an application was made once during the middle of the night. After four days the sulfathiazole was used every three hours daily and once at night. After four days the sulfathiazole was used every three hours daily and once at night. On the third day after this change was made the ulcer was much improved and two days later was considered well. Of course the usual treatment, such as atropine, hot packs, etc., was used also.

The following cases are ones involving the lacrimal apparatus exclusive of the lacrimal gland, in fact, cases involving the lacrimal sac and duct. The pre-supposition that a stenosed lacrimal duct is a thing of little consequence and will eventually come to operation anyway if not cured in a few treatments is a mistaken idea, as I have proved in many cases. To the mother of an infant who has a blocked duct and the consequent discharging eye, the matter is a rather serious one, and to this infant when he gets older it is also an unfortunate thing.

I think in these conditions in the past we have failed to realize the importance of continued treatment for a long time enough to get best results. In my practice I have found that they respond best to continued irrigations, usually daily irrigations for weeks. I have irrigated these ducts for as long as eight weeks and in one instance as long as ten weeks with a final satisfactory result. It is important to keep up the irrigations daily; where not done daily the treatments haven't been so satisfactory in my hands. It takes a lot of patience and determination to do this every day but if it is done daily I think you will find it well worth the time and effort made.

Most of these cases of infection of the lacrimal apparatus if prenatal are gonorrheal and if postnatal they are more apt to be pneumococcal or staphylococcal, with the pneumococcus predominating. However in one instance I found an infection the day of birth which proved to be pneumococcal in origin.

The first of these cases was eighteen months of age and showed a slight discharge and an accumulation of tears which had a tendency to overflow onto the cheek. Washing out the sac with a warm boric solution did not allow the fluid to enter the nose. Because of the fact that numoquin hydrochloride had been considered a near-specific for the pneumococci in the past I decided to use daily irrigation of a 2% solution of this drug. Sulfadiazine was given by mouth in six grain doses four times a day. After four weeks' treatment, the numoquin seemed to irritate the eye, causing a moderate amount of swelling and inflammation, so it was discontinued and sodium sulfathiazole solution substituted in the 5% strength. After fourteen days the stenosis gave way and the solution passed freely into the nose. Four more days irrigations were kept up after which time we considered the child well. an assumption that appeared to be justified as I saw this child two weeks later and it was perfectly well and free of trouble.

I am convinced that if these daily irrigations had not been kept going this child would have had a chronic occlusion of the duct, and all of you know what a nuisance this can be.

I have almost discarded the use of dilators, especially in these very young patients, as there is danger of making a false passage. Occasionally I do use the dilators but only as a last resort after other things have failed. In irrigating these cases quite a bit of force must be used, the force in itself acting as a gradual dilator, each daily irrigation slowly opening the stenosed area more and more. To date I have seen no harm result from these flushings of the sac and duct but I have seen numerous cases in which the result was very gratifying indeed. It gets results.

Case 2 of the series: This baby was exactly seven weeks old to the day when his mother brought him in. Both eyes were involved. He had been treated from the day of birth by the delivering physician so his mother stated. If this was correct this child probably was born with the infection, though it proved to be pneumococcal in type. I had expected it to be gonorrheal because the history apparently fixed it as being prenatal.

I injected iodized oil into both ducts and sacs and had them x-rayed to locate the point of stricture. The subsequent cure would probably have nothing to do with where the closure was but I did have curiosity enough to want to know just where the blocking was. It proved to be at the junction of the lacrymo-nasal duct with the sac on both sides. In none of the cases seen was the stricture in the canaliculi or above the sac.

Daily irrigations of five per cent sulfathiazole sodium solution were used and four grains of sulfadiazine by mouth given in milk. After sixteen days of this the left duct opened and the solution passed freely into the inferior meatus of the nose. The right required nine more days of treatment. Although it is problematical as to the benefit derived from the sulfadiazine by mouth this case did seem to respond a little more promptly than most of the others treated by different medication.

The last case I am reporting was a baby girl with a discharging eye since four days after birth. Culture showed only staphylococci so I started sulfathiazole by mouth in milk and ten per cent sodium sulfathiazole solution irrigations daily. After five days the mother reported the baby vomiting its milk several times so the sulfathiazole was discontinued and sulfadiazine substituted. Under this change the baby did well and was distinctly improved in seven more days. At the end of three weeks the stenosis gave way and the solution easily entered the nose. Treatment was continued four more days, however, to establish the fact that no reoccurrence would appear to hinder complete recovery.

From these cases it would appear that sulfathiazole sodium solution as irrigations daily in five to ten per cent strengths has distinct possibilities in pneumococcal and staphylococcal infections of the lacrymal sac and duct used in conjunction with sulfathiazole or sulfadiazine, and especially sulfadiazine by mouth.

DISCUSSION

DR. E. W. GREEN (Hattiesburg): I have enjoyed Dr. Staton's paper very much because it presents his method of handling common problems encountered in the practice of ophthalmology.

I do not recall ever seeing a foreign body of any type tolerated that was imbedded in the cornea. The eye usually rebels quickly against any type of foreign body and every effort should be made to remove it as early as possible. Leber in reporting his experiments on foreign bodies in rabbits' eyes reported that copper was the least tolerated and since babbitt is an alloy of copper with other metals it seems that Dr. Staton and his patient are both fortunate that he has tolerated this foreign body. In removing foreign bodies from the cornea I wish to call attention to a useful point I have recently learned in removing the stain of emory dust or rust from the cornea. Use a small cotton-tipped applicator and apply 1% silver nitrate to the lesion, then neutralize it with normal saline and you will be surprised how much easier the stain is removed.

The sulfonamides certainly have their place in the treatment of corneal ulcers and practically all severe types of ocular infection. There is some question as to the efficacy of their local use. However, I have used both the 5% ointment and 5% solution of sodium sulfathiazole susquehydrate and think they are definitely beneficial. I have not had any experience with the local use of the powder. I believe that the drug should be given by mouth along with the local use.

Obstruction of the lacrimal passages in the new born infant is a common problem that we all have to deal with. The primary pathology which gives rise to dacrocystitis in the new born is embryologic in origin. It is due to incomplete or delayed canalization of the nasolacrimal duct. Associated with these defects may be the presence of a collection of cells at the lower end of the lacrimal canal which have become separated from the walls of the canal during their later stages of development and have come to lie at the lower end of the duct, either just within or without the opening of the canal. In the former case, they are probably being held back by the presence of a small hand of tissue in an imperforate opening in the nasal mucosa when canalization was incomplete, or in the latter situation, have been expelled from the duct, they have become lodged about its opening.

The method of handling these cases varies considerably. Dilatation of the puncta along with hydrostatic irrigations will clear up a good many of these cases. However, it is occasionally necessary to probe the duct in order to establish drainage. Every effort should be made to clear up the infection before probing is attempted and this should be done as soon as the child is old enough to be given an anaesthetic. I usually do this between six months and one year of age.

Control of Sympathetic Imbalance in Posttraumatic and Other Vascular Diseases*

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NEW ORLEANS, LA.

IN THE PAST, wars have brought several innovations in our knowledge of vascular diseases. Among the milestones may be mentioned injury to and ligation of arteries, traumatic aneurysms, and following our Civil War, the description by Weir Mitchell of causalgia. In the last World War, Leriche first showed the value of sympathetic surgery (periarterial sympathectomy) in the management of certain painful lesions of the extremity. Since then, many advances have been made in our knowledge of vascular diseases and the disturbance of vascular physiology associated with trauma. Much more remains to be discovered.

The term sympathetic imbalance was employed in this title advisedly since the vascular disturbance in posttraumatic painful lesions such as causalgia and Sudeck's atrophy, while frequently vasopasm, is sometimes vasodilatation. There is no question however that following trauma of various types from mild contusions to sprains, including soft tissue and bone injury, the period of recovery is not infrequently complicated by a vascular disturbance. In a milder form this may be associated only with expected symptoms, so mild it is the normal process of recovery and does not deserve a definite designation. In more exaggerated or more prolonged form posttraumatic pain and edema become abnormal. Not infrequently these complaints may be differentiated from traumatic neurosis and malingering only with difficulty and after careful and studied evaluation. In the past the observer with doubt would too frequently conclude that such complaints on the part of the patient were not justified. Recoveries such as those illustrated in the slides demonstrate quite conclusively that posttraumatic pain with or without edema is usually associated with a vascular disturbance and a sympathetic imbalance. One of the debatable questions is, whether the sympathetic nerves carry the pain felt by these patients. Undoubtedly, the relief of pain is occasioned by disconnecting the sympathetic temporarily or permanently by novocain blocks of the sympathetic ganglia or by ganglionectomy. My personal experience leads me to believe, like Leriche, that the pain, the deep burning and aching pain in posttraumatic conditions of this sort, is actually carried over the sympathetic fibers.

CAUSALGIA. Causalgia is a more severe type of the same affection. Weir Mitchell described it in soldiers who had injuries near nerves and in his cases the patients complained of an intense burning and aching pain in the distribution of the nerves. Trigger zones and extreme hyperesthesia were noted by him. He had little to offer in the way of treatment. Leriche found the same existing in soldiers injured in the last war, and the first patient upon whom he did a periarterial sympathectomy for similar complaint was a soldier. This resulted in a cure.

SUDECK'S ATROPHY. A third stage of this posttraumatic syndrome is Sudeck's atrophy. In this phase subjective pain and tenderness is found out of all proportion to the objective findings. In addition, osteoporosis of bones in the involved area is diffuse and more or less uniform. This may be noticeable in roentgenograms of bones of the foot or of the hand. Atrophy of muscles is moderate to severe. In my experience, temperature studies done with thermocouple in patients with pain and atrophy, usually show the involved extremity has lower skin temperatures than the opposite extremity. This is contrary to very extensive and detailed studies made by Miller and DeTakats.

The question is, are all of these syndromes one and the same disturbance in vascular and sympathetic physiology following trauma, or are they separate clinical entities entirely distinct from each other? There is much evidence that they all are various stages of the same process or various degrees of severity of the same process.

VASCULAR DISEASES. Among the vascular diseases in which there is an absolute or relative imbalance of the sympathetic nervous system may be mentioned those in which an injury to, or clot in, a vessel causes a reflex vasospasm in that extremity and even in the opposite extremity, such for example, as thrombophlebitis. When thrombosis occurs in a vein, this vein undergoes a certain amount of vasoconstriction and in addition to this, other vessels in that extremity, including large and small arteries, become vasospastic to an abnormal degree. The vicious circle of vascular spasm causes more ischemia, which in turn creates more capillary permeability and edema and more obstruction. To a certain extent this same disturbed physiology occurs in thrombo-angiitis obliterans where clots in arteries set up a reflex vasospasm in addition to the organic obstruction produced. Even should vasospasm not exist in thrombo-angiitis obliterans, there is a certain normal tone in the vessels and the small arterioles and capillaries which if released, would permit a more extensive collateral circulation around the obstruction in the large arteries. For this reason, there is a relative sympathetic imbalance when we consider that the release of all sympathetic vascular tone would improve circulation by opening collaterals. The same thought may be applied to arterial aneurysms. The sac itself may cause ischemia in the vessels distal to the aneurysm by pressure on the artery. Even if there is not a reflex vasopasm due to a clot in the aneurysmal sac and pressure on the artery, the normal sympathetic tone in the collateral arterioles and capillaries exerts a deterrent effect on the total circulation and potential volume flow in that extremity. The removal of this tone would permit an opening of the sluices of the collateral vessels and an improved circulation to the arteries and vessels distal to the aneurysm.

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*Read before Issaquena-Sharkey-Warren Counties Medical Society, December 8, 1942.

Occasionally I have seen localized superficial thromboses in veins in the region of the calf, or in the leg, which created a constant source of pain. Daily swelling occurs in that particular area and distal to it. Rest and elevation in some of these instances does not entirely obviate the trouble and as soon as the patient is back on his feet, in spite of supportive measures such as elastic stocking or the Ace type of bandage, pain and swelling return. Only excision of this entire area containing the clotted veins would bring relief and then so dramatically and so completely, that one would wonder why rest and time should not accomplish the same thing. Undoubtedly in these instances, sympathetic imbalance resulted from the chronic edema and vascular irritation set up reflexly in the sympathetic system at the site of the clot.

Only in arteriosclerosis is there a minimum of sympathetic imbalance. There usually the patient is quite old and the collateral vessels as well as the main involved trunk creating the ischemia are much less resilient, and from them little can be expected in the matter of vasodilatation with improvement of collateral circulation. As a matter of fact, when there is severe degenerative arterial disease, there seems to be little reflex vasospasm and test methods such as sympathetic block with novocain show little temperature change and little improvement in the circulation. For this reason, more radical measures directed against the sympathetic nervous system to compensate for the change in arteriosclerosis do not seem justifiable.

Numerous other vascular disturbances might be considered in similar lines. One of those which is an enigma is erythromelalgia described by the same Weir Mitchell who described causalgia. This is supposed to be a functional disturbance, the sympathetic imbalance resulting in hyperemia, initiated and exacerbated by heat and improved by cold. The more I have observed vascular disturbances, the less I think the true erythromelalgia ever exists. A type of it is frequently seen in thromboangiitis obliterans and the understanding of how this disease may have been confused with erythromelalgia seems more clear recently since it has definitely been shown that heat may increase the pain in the ischemic extremity, and that cold may give definite relief. The erythromelia, the reddish-purple erythema of thrombo-angiitis obliterans fits quite well the description of erythromelalgia by Weir Mitchell. I have yet to see a case of true erythromelalgia which I did not think was very likely some other vascular disease.

Raynaud's disease of course is a prototype of all sympathetic imbalance. In the early stages of pure vasospasm without organic change, it exemplifies what is considered overactivity of sympathetic vasoconstrictor function. If that alone were the explanation, the cure would be simple, but unfortunately the results of sympathetic release by ganglionectomy for Raynaud's disease have not been all that is desired. Recurrences are frequent and the cause of recurrence has been debated. Some authors including Telford and Smithwick have felt that recurrence is due to the fact that the ganglionectomy of the upper extremity is a postganglionic resection whereas that of the lower extremity for similar conditions is the preganglionic resection. Telford and later Smithwick attempted to obviate this by devising an operation intending to remove the preganglionic connection from the first, second, and third dorsal ganglia, which supply the sympathetic efferent fibers to the upper extremity. Telford quite candidly admits that even that has not entirely given the desired persistence to the immediately satisfactory vasodilatation obtained in the upper extremity. My experience has been that vasospasm may return quite suddenly and with tragic severity even in the lower extremity two or three weeks after a lumbar ganglionectomy, done with precision and care, had accomplished the most dramatic improvement, with vasodilatation, a warm leg and a warm enthusiasm that all would be well. Pre- versus post-ganglionic sympathectomy is not the entire answer to the difficulty of obtaining sustained vasodilatation.

Innumerable measures have been advocated for the control or alteration of abnormal or normal sympathetic vasoconstriction. Among the general measures most commonly used and most obvious are postural changes, elevation for edema and cardiac level or slight dependency for ischemia. Other general measures are rest, and on the other hand, use; walking with supportive bandages or elastic stockings, or in such instances as Sudeck's atrophy, walking in a cast with an iron heel. Böhler has contributed one of the best preventive measures for causalgia and Sudeck's atrophy in his teaching of immobilization of the extremity with use of it. The question of cold and heat is still debatable. Heat to the very ischemic extremity is contraindicated, because it causes a demand for increased metabolism in a cell that had decreased oxygen and metabolic supplies.

Drugs have been particularly disappointing in their sustained effect on the sympathetic system. Papaverine hydrochloride for acute vasospasm such as occurs in embolism to an artery is of aid. Prostigmin, pancreatic extracts and mecholyl to cause sustained vasodilatation have met with indifferent success in the hands of most authors. Mechanical devices such as pavex, the rhythmic constrictor cuff, and oscillating bed, have helped only slightly. The best of these is the pavex in my experience and that only excellent when the patient is economically able to have his own and use it for a short time daily over a long period. The alternate constricting cuff has some theoretical objection in that it traumatizes the already diseased artery. The oscillating bed is entirely inadequate and unhelpful.

A local operation such as novocain infiltration or excision of trigger scars sometimes, surprisingly, is beneficial. The same may be said concerning the excision of thrombosed segments of arteries, but judging from the reports from such reliable sources as Leriche and Homans, the attack on the initiating point of reflex vasospasm by excising a thrombosed segment of artery results in marked improvement in the circulation. Obviously, such an operation has a limited field and must be directed to instances in which a small segment of a larger artery or extremity has been occluded.

A method of indirect attack on vasospasm is repeated sympathetic blocks with novocain. This is often of great value. After properly placing the needle, five or ten cc. of novocain (one per cent) are infiltrated near the cervical stellate ganglion, or five cc. are delivered into each of the needles placed for the first, second, third and fourth lumbar ganglia. In the presence of causalgia, a few minutes after the block is completed, the pain abates or ceases and the extremity becomes warm; stiff joints become less painful and greater range of motion may be forced with little discomfort. After a period of three to twelve hours the pain and vasoconstriction might return, but blocks on consecutive days or on alternate days or even at intervals of twice a week over a period of a week or ten days may turn the tide in favor of good blood supply and rapid return of joint function in an otherwise vascillating or obstinate condition. I have used sympathetic blocks repeatedly in patients who have causalgia or who have a stiffness and pain following injuries and fractures and in whom the question of mobilization was proceeding slowly, and have found such therapy surprisingly gratifying in that recovery is hastened.

Ganglionectomy is justified in certain vasospastic arterial states with or without organic disease when the patient is young much more often than when he is elderly. There is no definite method of precision in determining that a ganglionectomy would have a result that would justify the undertaking. But it is certainly justified where the question of impending gangrene or chronic ischemia so incapacitates an individual that sympathetic release even of normal vascular tone would likely carry him over a period of improvement until further vascular adjustment by organization and opening of collaterals turns the tide in favor of recovery and rehabilitation. Ganglionectomy is indicated as a preliminary procedure in the treatment of aneurysms where an endoaneurysmorrhaphy is intended; it is certainly indicated in severe Raynaud's disease and in severe vasospasm associated with thrombo-angiitis obliterans particularly in young individuals. The risk of it is quite small and offers tremendous improvement in vascular supply.

Ganglionectomy for causalgia or Sudeck's atrophy is indicated in severe types of these lesions, but usually these conditions may be improved or obviated without radical surgery, by repeated novocain blocks of the sympathetic ganglia associated with a physiotherapy and forced use of the extremity involved. In the severer type as in the case I have illustrated to you, ganglionectomy is indicated. The results for such lesions are truly remarkable.

SUMMARY

A brief discussion was given of sympathetic imbalance in posttraumatic vascular disturbances and actual or relative vasospasm associated with certain vascular diseases. Brief discussion of measures applicable in the treatment of these conditions was considered and the value of sympathetic blocks with novocain in posttraumatic causalgia and Sudeck's atrophy was emphasized. In addition to this the indications for ganglionectomy were briefly discussed showing that they largely depended upon clinical findings in the individual case. The indications can not definitely be based upon a laboratory test or any method of precision.

Slides illustrating methods and cases were shown at the meeting.

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A Suggested Outline of Policies, Standing Orders, and Daily Routine for Industrial Nurses*

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FOREWORD

BECAUSE OF the critical shortage of physicians and registered nurses not only in civilian practice, but also in many war industries, the need for the most efficient and effective utilization of what we have left becomes apparent.

A clarification in some of the relationships between employees, managements, and medical services in industry should expedite many problems and aid in the expansion of better industrial health units. It is felt that this might best have its origin in a clear delineation of the duties and approaches of nurses in industry. The following suggestions are offered purely as a preliminary outline. It is realized that whereas there are many individual differences in industrial medical problems, basic relationships and policies that would be sound in one company should also be sound in another. Perhaps the differences of administration are differences which derive from the stress on particular toxic exposures or the availability of labor in a given area.

Insofar as possible, all controversial material has been left out of the subsequent collection of notes. Indeed it will probably be found most effective to develop individual manuals in each plant typed in a looseleaf notebook so that insertions can be made from time to time as new techniques and relationships develop to meet new problems. Also, where such a plan is adopted, it would seem reasonable to leave several pages of space under each one of the headings, "Specific Medications and Instructions" for modifications and additions.

GENERAL POLICIES

This medical department was established and is maintained to help the employees of this company. Health protection, advice, and treatment will be given alone the lines to be subsequently considered. This is an outline of the minimum amount of care that employees may receive. If any problems arise in the working day of the nurse that are not covered in the following outline and suggestions, she is to contact the medical director as all matters of policy must of necessity have their origin through him.

It is expected that nurses will be uniformly cheerful and coöperative in their attitude toward all employees.

Accidents will be given priority in this dispensary over all other forms of endeavor. Except in grave emergency, employees reporting to the dispensary during their working hours will have with them a pass signed by their foreman. This accounts for the nurse's time and that of the empoyees to their foreman and allows space for such recommendations about the case as may be needed for the safe continuation of the worker's employment.

Although the legal responsibilities of this department can be met by the management of occupational diseases and injuries, the other phases of work which will be subsequently outlined are vitally important to the employees and management of the company and make up the difference between a first aid station and the present conception of a health department as visualized by the employers.

All health problems of an occupational nature will be handled in their entirety through this department. Non-occupational problems will be given first aid once, then referred to the family physician. It is the policy of the health department of the company to coöperate with all practicing physicians of the community, and where time allows, on the written instructions of these physicians and with the specific approval of the medical director, routine minor services may be administered by the nurse. In case of any question which may arise between the nurse and any employee as to the occupational nature of a complaint, that employee is to be referred to the medical director whose decision in these matters is final.

All patients with temperature over 100° (F.) are to be immediately sent home or to the hospital and the physician of their choice is to be notified as soon as possible.

Before any employee is excused or sent home, the nurse will contact that employee's foreman to explain the circumstance. This relieves the medical department of compliants from foremen who hold up a production job expecting someone's return. It is the responsibility of the nurse to make arrangements for the transportation of these sick workers, either with one of the company's cars or some member of their family who will come for them or one of the other employees who can take them home.

Any employee who is ill enough to stay home from work must report to the medical department before returning to his job—this helps the company clarify its ideas on absenteeism and gives the health department an opportunity to protect that employee from strating to work too soon and those who are on the job against the spread of contagious disease. Check temperature, pulse and history. If there is any question in the nurse's mind about the advisability of the employee's return, he should be required to see the medical director first.

All patients wearing dressings of any kind will be seen by the nurse daily in the dispensary, even though the dressing is not changed. This will be done, preferably, at the end of the working shift of the injured employee. It will assure him that the company is interested in his progress and he goes home with a clean, dry dressing that is neat, securely attached and comfortable. The most important part of this daily inspection is our assurance that no infection or other complication is arising in the wound. The most rapid and effective way to determine this latter eventuality is the patient's statement that the wound is becoming more uncomfortable or by lymph nodes becoming slightly enlarged and tender at the elbow, arm pit or groin. Enlarged nodes almost always precede the development of a red streak up the arm or leg, (lymphangitis). If the nurse is not thoroughly familiar with the feel and appearance of these two very important signs, she is to discuss this matter with the medical director immediately. The limitations of the nurse's education prior to her employment here may be forgiven, but to continue this lack of education and discernment is considered inexcusable.

The employee is to be warned never to change his dressing at home. The medical services of his company are as convenient to the employee as the nearest telephone. He is to be urged to report to the dispensary or to its medical representatives at any time that he has qualms about the progress of any occupational injury or disease. It is much cheaper for the company to change a hundred dressings than for one employee to have justifiable complaints of the service.

Never change dressings on suture cases or others being seen by the medical director unless specifically advised to do this. In case of need, reinforce his dressing with clean, dry bandage and call the case to his attention as soon as possible.

On all other problems and minor cases on which the nurse will assume complete responsibility, the following suggestion is offered. If the employee complains that the dressing is uncomfortable, change or adjust it for him. None of us is infallible, and a dressing may be too loose or too tight. In industrial nursing practice, it is much more common for wounds to throb due to the fact that the dressing is too tight than to the presence of a secondary infection in the wound. Therefore, if release of the tension of the dressing does not make the wound comfortable, the employee is to be seen by the medical director.

If there is any limitation of motion or any suggestion of a fracture in the mind of the nurse or of the employee, that employee is to be referred immediately to the medical director. (Several thousand x-rays may be taken for the money that it would cost to defend a suit against one employee where an x-ray should have been taken and was ignored).

All x-ray orders are to be made by the doctor unless otherwise noted.

Because the prolonged contact between adhesive tape and skin surface is usually followed by some skin irritation, compound tincture of benzoin should be painted on and thoroughly dried before adhesive tape is applied to ankle, wrist or chest.

The part played by the nurse in case of fire, explosion or other major catastrophe is covered in a separate bulletin and it is expected that the nurse will be thoroughly familiar with the various duties expected of her in any of these eventualities.

Boils, injuries that occur outside the plant and other problems of a non-occupational nature on which advice and help will be asked will be given first aid once, then referred to the family physician. Continued care or observation of these cases would be an infringement of private practice in the community and might involve the company in liability for the outcome of the case. The employee may, of course, consult any physician of his choice. However, the service of the company's health department was designed for his assistance. This service is trained and experienced in the management of all industrial health problems and is, of course, free to the employee.

It is expected that the nurse establish friendly relations with all charity and public health organizations in the community. They can be of infinite service to her in helping work out many of the problems that arise in her day.

Nothing will so rapidly discredit this medical department in the eyes of the employees as an evasive answer. If she doesn't know the answer to the employee's problem, the nurse may make notes about the case to discuss with the medical director, personnel department, or community nursing and health facilities. No employee is to go without a satisfactory answer for twenty-four hours.

If the problem cases are to be referred to private physicians, she will be wise to have the medical director make these referrals as there may be matters of policy involved in such moves.

ADDITIONAL GENERAL POLICIES FOR INDUSTRIAL NURSES

(The above heading should be put at top of a blank page to allow space for new ideas and policies.)

THE MANAGEMENT OF INJURIES AND ACCIDENTS

Any employee who sustains an accident or injury, no matter how trivial, is to report immediately to the dispensary.

Foreign bodies in the eye:

In case of any suspicion of a foreign body having penetrated the eyeball, close the patient's eye, put on a dressing with as little pressure as possible, and send the employee immediately to the eye specialist with an escort from the plant using one of the company's cars or a taxi. The medical director is to be notified about any of these emergencies as soon as possible since he will wish to contact the eye specialist and be acquainted with the progress of all problems relating to health and accidents.

In case of a foreign body in the eye, the nurse's first approach will be an effort to remove it by washing it out with saturated solution of boric acid. This is done most efficiently with the employee flat on his back. The solution is then washed across the eye from an eye dropper held at the nasal margin of the eye and collected into a piece of cotton or gauze held at the outer margin. If this method does not loosen and remove the foreign body and if that foreign body is not on the cornea, the nurse will fold back the lid and remove the foreign body with a cotton applicator which has been previously moistened in the boric acid solution. The nurse is not to use a spud or other sharp instrument in the eye at any time. If the foreign body is imbedded in the cornea, the employee will be sent to the eye specialist by the medical director.

Burns about the eye:

Thermal burns of the orbit, lids or immediately surrounding structures are to be treated only with ointments which definitely specify on the tube that they are ophthalmic.

Chemical burns of this area are to be irrigated with copious amounts of tap water followed by the specific instructions written below.

In case of any doubt about eye cases, immediately contact the medical director or the eye specialist.

Specific medications and instructions:

This heading should be on a blank page for the individual doctor's orders covering the specific medications that he wants used).

ALL OTHER INJURIES

Employees with scratches and abrasions are to have the area scrubbed thoroughly with soap and warm water until the wound and adjacent tissues have been thoroughly cleansed. If the wound is minor, so that the skin is not completely cut through and there is no abnormality of motion or sensation and the flow of blood may be stopped by easy pressure, the nurse is to paint the area with one of the stock solutions listed below and apply a clean, dry dressing firmly to the injured area.

Wounds that penetrate the skin over any

joint or along the course of a tendon are to be referred immediately to the physician. (As you know, sutures must be put in within four hours following the wound. Errors in judgment at this point are expensive, embarrassing, and account for a large share of industrial disabilities. Always leave this decision with the physician). Diagnoses are made by doctors—treatments and follow-ups by nurses. Although the responsibility for most of the dressings must and should rest on the nurse, it is always best to have the doctor's diagnosis and report as a guide and added coverage in every case where a complaint might arise.

All cases being cared for by the nurse that develop pain or tenderness along the course of any tendons which pass the wound are to be immediately referred to the physician.

All sprains and strains with acute onset are to be referred immediately to the physician (this will, of course, include the possibility or certainty of fracture either simple or compound).

Although the nurse will be responsible for the follow-up care of most of these problems an enumerated under general policies, it is sound and conservative industrial nursing practice to have the physician's diagnosis and outline of treatment to cover her in any of these cases where trouble might develop.

SPLINTERS

The nurse will attempt the removal of all splinters using the following suggestions as her guide. By gentle local pressure around the area of penetration the end of the splinter may usually be seen, firmly grasped, and withdrawn by a pair of forceps. If by this method the end of the splinter may not be clearly seen or easily felt, don't probe around in the opening of the wound as this is quite painful to the patient and makes the subsequent job more difficult for the doctor. This latter group, of course, will be sent to him. (See the specific instructions relative to the use of tetanus antitoxin).

TREATMENT OF BODY BURNS

Any burn, no matter how superficial, that covers in excess of 10% of the body surface is to be seen immediately by the physician. He is to see all second and third degree burns. Never send burned cases to the doctor or hospital covered with grease without his specific instructions (see below). All burned cases that run any fever are to be kept at home until afebrile.

With burned cases, as with any others, the employee is to be referred to the medical director if he expresses a desire for his opinion or if the employee is not entirely satisfied with his progress and type of treatment.

SPECIFIC MEDICATIONS AND INSTRUCTIONS:

(This heading should be on a blank page for the individual doctor's orders covering the specific medications that he wants used).

GYNECOLOGICAL PROBLEMS

Dysmenorrhea

Any of the standard cramp mixtures, stocked by the company, may be used according to the directions on the bottle. (In this case only would I defer to the suggestions of the employee about which one of the solutions or tablets is best for her). One dose of the medication may not be adequate, or it may be necessary for the employee to spend some time on the bed with an electric heating pad. Be as obliging and coöperative as possible, but this is not an excuse for an employee to spend the day in the dispensary. If she is not able to be back at work in an hour, it is probably best that she be sent home for the day. In these cases always be careful not to assume responsibility for care of unusual menstrual disorders lest they might be appendicitis, tubal pregnancy or some other acute surgical problem.

In case of very serious and regularly recurrent problems, the employee is to be referred to her family physician, *and his recommendations for her are to be included on the employee's record.* In case of menorrhagia with or without miscarriage, the employee is to be sent home immediately by car. In the latter case, she is not to return to work until she has a normal menstrual flow.

Pregnancy

Never accuse an employee of being pregnant. This is ground for a libel suit. Your original contact with her should start from the mention to you or other employees of her condition. If the employee makes no such admission voluntarily, her problem better be discussed with the physician.

A pregnant employee should be encouraged to take a leave of absence from the time of our knowledge of her condition until she is six months postpartum. This is the best and safest way for prospective mothers and babies. In order to encourage coöperation in this line, we should make every effort to see that jobs and seniority privileges are secured for their return. Pregnant women are not only prone to absenteeism and difficulties in maintaining their balance, but are subject usually to an emotional instability which is considerably exaggerated by the attempt to do production work in a factory. Also from a legal point of view, it might be considered that the company had a contributory negligence in allowing a pregnant woman to work there, thus jeopardizing her health. The principal reasons for delaying the return to work following pregnancy to six months is to encourage mothers to stay home and nurse their babies and allow adequate time for their pelvic organs to return to normal. Though this may occasionally work a hardship in individual cases, it would certainly be no service to the community in which we live to disregard our responsibilities to homes and families because of a purely selfish need of the company for the return of efficient employees.

Because of the acute labor shortage during this crisis in our war effort, modifications to the above rules have been drafted by the Women's Bureau of the U. S. Department of Labor which may be applicable to selected cases. However, the responsibility for the decision on the latter group will rest between the medical director and the company's management.

The names of employees home on childbirth leave should be put in the file for intermittent contact by the visiting nurse when she is in their neighborhood. These employees have had money of the company spent on their training and will probably return for employment later —they will appreciate the visits.

TOOTHACHE

Give aspirin grains 10 and try to get the employee's consent for an appointment to be made for him with his dentist. On these problems procrastination is the customary approach whereas, definite action may be achieved by a move at this time. If there is a definite cavity in the aching tooth that appears to go into the pulp, swab this cavity dry with a cotton applicator and apply a very small amount of oil of cloves. This solution is only effective when it penetrates the pulp of the tooth; in this case a very minute amount is adequate. Only use it under these conditions as its indiscriminate use not only does no good but its local action on the mucous membrane of gum and cheek can produce a burn which aggravates the whole problem.

DERMATITIS

The nurse will be responsible for interviews with the foreman and contacts with any and all employees in cutting oils or other solvents that produce skin irritation. Anything suggestive of an abnormality of the skin that is turned up on these rounds will be brought immediately to the dispensary by the nurse. Dermatitis may represent an infection which should not be spread within the company, or a sensitivity reaction; in which case the employee will grow rapidly worse with prolonged exposure. It may be only a plugging of hair follicles resulting from poor hygienic conditions. If this latter is the case, the skin area in question will be thoroughly scrubbed by the nurse and the protective cream designated for this particular job will be applied. This employee will be instructed in the routine of cleanliness and will report to the dispensary daily until his skin is in good condition. If, after the doctor's diagnosis, the skin problem does not respond to five days of your care, the employee is to be seen again by the doctor. It is known that the nurse's job here when done effectively will reduce by 50% the number of dermatological problems of the company. Never put ointments or solution with any stain or coloring matter on dermatological cases without the specific recommendations of the doctor after he has seen the case and made the diagnosis. The diagnosis of these cases is frequently difficult and the nurse might add complications to the doctor's problems by her treatment.

RESPIRATORY INFECTION

First, check temperature and pulse. If the temperature exceeds the upper limit of 100° (F.) or the pulse is in excess of 95, the employee is either to see the medical director immediately or be sent home. Otherwise, give the medication specified for this purpose. It should be remembered in this connection that medication to be swallowed is always given before local applications or treatment in the throat. It would be foolish to swab the patient's throat then have him swallow two aspirin tablets and half a glass of water.

HEADACHES

If there is no history of head injury, gastrointestinal symptoms or fever, the nurse will dispense the specified medication. If this is an habitual complaint or one associated with one or more of the complications listed above, that employee is to be referred to the medical director for more detailed consideration of his problems.

INTESTINAL DISTURBANCES

Patients with diarrhea, but without fever, severe pain, nausea or vomiting may have the medication specified for this purpose. Be sure to write down the patient's statement about where he thinks he contracted this diarrhea. This information is frequently of great importance to the medical director or the representatives from the State Board of Health who are always interested in controlling any outbreaks of food poisoning or other infectious diseases.

All patients with abnormal pains and nausea, with or without fever, unless menstrual in origin, will either be seen immediately by the medical director or sent home. The nurse and her company cannot afford to be criticized for having encouraged an employee with appendicitis or other acute abdominal problems to continue in his employment, risking his life and health because he did not have adequate and sufficiently prompt attention. Without a specific request from the physician, these employees are to have only one teaspoonful of some carbonate, with or without effervescence, in a glass of water.

NERVOUSNESS, FAINTING, EMOTIONAL INSTABILITY

Much of the effectiveness of the job that the industrial nurse does for her company will be judged by her management of these problems. The sedatives specified for these purposes will, of course, be given the employees, but she and the company both know that dispensing medicine is no answer to these problems.

These symptoms and complaints are the outward evidence of problems that it is of the utmost importance for the company to know about. Since, if they are allowed to continue without understanding, help or control, a basis is provided for much absenteeism and labor turnover—two sources of tremendous inconvenience and financial loss to the company. If it is not convenient to spend more time with employees when they come into the dispensary, have them return later in the day when there will be an opportunity to go into the background of ther problems with them; to find out whether their reactions arise from quarrels at home, or money worries, or occasionally the production rate that is expected of them at their job in the plant. This inquiry is not a matter of idle or morbid curiosity. Notes are to be taken on the employee's story. The employee is to be asked to allow you to discuss his problems with the personnel department or other agencies in the plant which might arrange for him to borrow some money, find a more suitable place to live, or change the type of job he is doing within the factory.

It must be remembered that these confidential communications of employees are to be guarded against any hint of general circulation. If an employee finds that his personal problems leak out from the nurse the help rendered by the entire medical department would be seriously crippled.

SUGGESTED DAILY ROUTINE FOR INDUSTRIAL NURSES

Except for the management of accidents that are emergencies which will interrupt the routine of the day, the following lines of duty are suggested:

Since the nurse's arrival on duty is roughly correlated with the arrival of many employees who are about to start work on the same shift, the first several hours of her day will be occupied with redressings of injuries and keeping these employees' charts up-to-date; with employees who have been out because of sickness or other reasons and must be cleared through the dispensary before returning to work. It is of the utmost necessity that an efficient routine be established for this most frantic time of your day. Many of these employees are already on a pay status so the time spent by them in the dispensary not only decreases the productive efficiency of the company, but adds to the direct labor cost of everything produced here. If the work in the dispensary cannot be handled during this rush period, consult the medical director. It may be necessary to have a nurse who is completing her shift stay on a half hour and the new nurse come a half hour early so that two nurses can be on duty at this time.

As soon as this former group has been taken care of, the nurse will contact the employment department to see that the nursing share of the work on these applicants for employment is started. Cards will be filled out for applicants, covering height, weight, vision, temperature, pulse and whatever other parts of the identification, history and taking of laboratory specimens has been allocated to the nurse by the doctor. These prospective employees will then either be sent to the doctor's office or prepared for examination at the plant.

If the doctor is in the plant by this time, the nurse will of course stay with him during his completion of the examinations, particularly if female applicants are to be examined. Otherwise, she will leave with either the telephone operator or the personnel department directions for being contacted, and proceed on her daily round through the plant, starting in the areas where the greatest hazards and complaints are found and moving from there through the more innocuous parts of the plant.

This tour will include not only inspections of the production operations but the toilet facilities to see whether they are adequately cleaned and provided with waste receptacles, necessary dispensing facilities, and adequate amounts of soap and hot water. Rest rooms and locker rooms are also to be inspected for cleanliness, efficiency of arrangement, and facilities for comfort. Also the lunch rooms, kitchen or other services operated by the company involving food handling will be inspected at this time.

This daily tour of the plant will require all of one's tact, charm and resourcefulness. One will have discussions with foremen in the factory but insofar as is possible it is best to get the other employees to come to the medical department to talk over their problems. Not only is it easier to discuss confidential problems there, but it must be remembered that every employee is part of a production line and taking up his time except at stated periods upsets to some extent the job of every other worker.

Any suggestions or criticisms arising either from the nurse or any of the employees relative to ventilation, heating, lighting or any of the above problems, should be included in a report sent to the medical director and/or the plant management. One's judgment and ability to advise management in advance of complaints can be a very real service.

The nurse in charge of the dispensary will be responsible for seeing:

(1) that the dispensary is spotlessly clean.

(2) that there are adequate supplies on hand to meet any emergencies which may arise in the coming twenty-four hours.

(3) that the nurse who relieves her is advised of any incompleted problems.

(4) that tests of all specimens of blood, urine or other laboratory material are either completed and recorded on the chart of the patient or sent to the specified outside laboratory.

Vaccinations against smallpox and immunizations against typhoid and diphtheria are also to be given by the nurse. As supplies begin to run low, they can be replaced from either the local health department or the State Board of Health without cost. The collection of blood for serodiagnosis of syphilis also comes under this heading. These blood specimens will be mailed at the end of her shift by the nurse who takes the blood—she fills in all spaces to be filled in on the accompanying card and completes it for mailing.

If, after having completed the above routines, the nurse is not at the end of her shift, with the dispensary beginning to fill again with employees for redressings and other medical services, the nurse is to consult with the medical director and management of the company about the advisability of occupying this open time with home visits to check on the progress of certain injured employees and other absentee problems.

Advice on the development and integration of this latter phase of one's work may be obtained by consulting the Division of Industrial Hygiene at the State Board of Health.

(The authors wish to express their appreciation for the suggestions or editorial help given by Drs. Crit Pharris and Albert S. Gray, Division of Industrial Hygiene, Hartford, Connecticut, Dr. Augustus Street and Dr. Felix J. Underwood of Mississippi.)

The Cause and Treatment of High Blood Pressure

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AFTER THE age of forty it becomes important to keep informed periodically of the status of one's blood pressure. If that pressure is high it is very advisable, if not absolutely, to take steps to reduce this hypertension and keep it in check. Although high blood pressure may be present before forty and might be associated with any one of a number of conditions, it is most frequently symptomatic of kidney disease and auto-intoxication.

High blood pressure is a dangerous condition, not only because of the grave nature of the condition of which it is a symptom, but because its presence, in conjunction with either unusual mental stress or excessive physical exertion, leads to apoplexy. Regardless of whether its presence is detected before or after forty or whether its underlying condition is insipient or advanced, every possible care should be exercised toward its reduction. This should be done only under the direct advice of one's doctor.

In addition to avoiding all foods that raise blood pressure, it is advisable to add to the diet foods whose mineral salt and vitamin contents have been found valuable as a supplement to the diet in high blood pressure.

HISTORICAL SIGNIFICANCE. It is claimed that present "high tension" civilization has increased the number of hypertension sufferers alarmingly. Research indicates that an erroneous clinical interpretation of the underlying etiological factors and the confusing syndromic picture have combined to hinder successful treatment. Thus, hypertension is almost a daily occurrence in the practice of most physicians. Its correction and cure elude medical skill.

Digestion of an imposing amount of research, which for the first time in medical history was directed to the physiological rather than the mechano-anatomical, points to unbalanced sympathetic-parasympathetic activity and inter-glandular maladjustment as causative of hypertension. This warrants the expectation that biophysical adjustment should be a very rational therapy for high blood pressure.

The recent discovery of vegetative centers in the brain is no more startling than the discovery of two centers for the control of blood pressure located above the fourth ventricle behind the optic chiasm.

Blood pressure has only a physiologic constant. As such it fluctuates between certain limits, considered normal. The mass and quality of the blood at each circulatory "moment" constitutes the natural stimulus of the mechanism of blood pressure.

Blood pressure is regulated by the double mechanism: nerves and humoral fluids. Balance depends on the normality of certain inorganic salts and elements, in adequate ratios, which stimulate those centers to work, mutually influence each other and constitute the pH factor of the blood. The latter is the rhythm to which all physiochemical changes in the body adjust themselves.

The lack of balance in the ratio of these salts and elements causes a reciprocal degree of improper endocrine function, and as a correlated action, a corresponding degree of sympathetico-parasympathetic desynchronization. This results in pathological fluctuations of blood pressure.

RESEARCH. According to research, the living organism is controlled in function and form by the internal secretions. The secretions act as ferments (diastase, hormones), only by their catalytic content. The catalysts are high atomic mineral elements. They function through lower atomic mineral salts. (If these elements are withdrawn from the secretions, the secretions become inert. When returned to them, the secretions recover their fermentative power).

Normal health (and all physiological functions) depend on the secretions and the proper concentrations and ionic balance of the catalysts and the salts through which they act. When deficient, the secretions run a parallel power of activity. The result is diminished physiological performance, lowered health. Replenishment of these inorganic substances returns to the secretions the proper power to function normally.

Systemic dysfunction (and infection as well) force endocrine hyperactivity. This overactivity is a natural process of the body in its effort to counteract the abnormality. But this process must have more abundant inorganic material than normally required by the glands in order to satisfy the extraordinary requirements for inorganic substances which the exhilarated glandular function must have. If the glands do not receive the inorganic elements they require, which substances are (and act as) nutriment "food" for the glands, there results an imbalance in their functions. It is scientifically admitted that the deficiency of vital inorganic elements (natural bio-elements) is primarily the cause of organic dysfunction (hyper-susceptibility to infection as well) resulting from the weakened condition of the body's natural defensive forces and eliminatory mechanism.

These inorganic bio-elements constitute positive forces in relation to food particles, the latter being negative forces. Therefore, there is mutual attraction between these two forces forming thereby a combination of a positive inorganic entity with a negative organic substance.

ETIOLOGY. The catalytic elements exercise their power over the function salts by increasing the ionic (electrical) potency of these inorganic entities, which in that state unite with their respective opposite forces to produce an iso-electric balance. The catalysts do not influence further the *combined* or united function salts, but will continue to influence the *uncombined* salts, acting merely as activators of the functional salts.

Each catalyst influences or activates its complimentary opposite function salt so that this salt may become combined or united. The catalysts can also disunite other salts (of opposite ionic charge). Each salt balances another and when in excess lowers the activity of the other.

Hypertension can be accepted as a result of an auto-intoxication due to lowered osmotic pressure in the tissue fluids, which permits toxic metabolic products to traverse the digestive tract into the circulating fluids of the body. This lowered osmotic pressure does not permit a freely moving lymph, thereby slowing greatly the elimination of waste products, and increasing thereby the amount of toxins in the blood fluids. This warrants the conclusion that hypertension is due to: (1) absorption of exogenous toxins, (2) retention of exogenous toxins.

Naturally, this gradual and chronic accumulation of toxins calls for a strong reaction of the organism in trying to neutralize and destroy them, and to do this the catabolic internal secretory glands are brought into play: The thyroid and suprarenals mainly (in reality all the endocrine structure) are concerned and active in this defense.

TREATMENT

Clinically interpreted, the findings briefly outlined above mean that the treatment of hypertension must aim at the following: (1) maintenance of the normal pH factor of the blood. (2) normalization of osmosis (balance of cell exosmosis with endosmosis) thereby allowing a freely moving lymph to supply nutriment and carry away waste products.

With waste (toxins) removal, the tissues will return to their normal routine. The waste products of normal metabolism do not require such excessive overwork as is needed to destroy and eliminate retained toxins.

A therapy to be constructively effective in the correction of hypertension must be biophysical in scope. This requires that the inorganic substances employed to restore normal pH must not be used for their recognized therapeutic effect but biophysically from the standpoint of their inherent electro-dynamic energy.

A rational treatment of high blood pressure should not employ substances foreign to the chemico-physiological mechanism of the blood pressure (and which are merely capable of lowering and keeping low abnormally high blood pressure) but should be directed to eliminate the causes of endocrine maladjustment responsible for hypertension.

INTRAVENOUS MEDICATION. The intravenous medication consists of the inorganic salts of potassium, sodium, iron, calcium, magnesium, potassium phosphate, lithium, iodine, guaiacol and creosote. The chemicals given by mouth are: strontium bromide, aluminum, phosphorus, sulphur, copper, zinc, barium and bismuth.

MODE OF ACTION. The mode of action of this plan is simple, its main object is to maintain at normal the blood pH, which demands replenishment of the lacking chemical substances (ions) and reëstablishment of the electrolytic relation of the blood pH by inhibiting the effects of ions in excess of normal, thus neutralizing antagonistic ions.

The effect of sympathetic and parasympathetic function on the blood pressure is well understood. It is equally well known that the pressor and depressor material of certain endocrine glands affects, influences and determines in turn the vegetative nervous function and with it blood pressure. (The sympatheticotropic endocrine group of glands is made up of the thyroid, the posterior lobe of the pituitary, the adrenal medulla and the chromaffin system. This group is concerned with catabolism and elimination. The posterior lobe of the pituitary is related to metabolism of carbohydrates and sugar. The liver and pancreas, the anabolic glands, are concerned with the transformation of the nutritional material and in its further utilization in the body with the help of their incretions. Applied to hypertension, this means that in the absence of structural defects, pathological lesions, etc., as long as the endocrine glands function normally, the vegetative nervous function, and consequently blood pressure will be normal. Abnormal endocrine activity will disturb normal vegetative nervous function and cause abnormal levels in the blood pressure.

To illustrate: Consider the case of the sympatheticotonic individual, in whom the blood pH is always low, to understand that abnormal cation-relations is the etiologic factor of this type of hypertension. Abnormal pH causes glandular dysfunction, that is, disturbed electrolyte relation, in which the cations are insufficient, causes thyroid overstimulation. Excessive hormone (pressor) material from this gland overstimulates the sympathetic system thereby causing hypertension.

The excess of stimulating calcium ions overstimulates the general catabolic action of the thyroid gland, causes adrenalinemia and increases the activity of the posterior part of the pituitary, which is responsible for the production of a hormone, pressor in effect, which overstimulates the sympathetic nerve function, therby causing hypertension.

The clinical of this therapy for hypertension becomes manifest at this exact point and the value of chemical rationale is demonstrated, inhibiting the stimulating calcium ion with known antagonistic potassium; sodium and magnesium ions will automatically normalize thyroid functions and will cause a reduction in pituitary activity with a corresponding decrease of the amount of the pressor material and subsequent normalization of sympathetic function.

Where the hypertension is due to an excessive secretion of adrenalin from the suprarenal gland it appears that the use of allimin inhibits part of the action of adrenalin and lowers blood pressure. This form of treatment puts an end to the sympathetic overstimulation, thereby removing the factor that is causing hypertension.

Dr. Alex Cannon, who claims the invention of the lie detector, calls the instrument by the 31-letter name of psychostethokytographmanometer.

You remember one humorist said his wife was the very best of lie detectors. We might agree that wives have plenty of experience, husbands trying to explain why, where and what.

Appendicitis—A Compendium of Opinion*

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THE SUBJECT of appendicitis is a most common one, but evenso the figures indicate that about two per cent of all cases operated upon die, or at least fifteen thousand people die each year in this country. Seven hundred and fifty thousand people in the United States have appendicitis in the course of the year, one out of every two hundred people. Counting thirty days for the average loss of time from work, there are 22,000,000 days lost, or one day in six for every man, woman and child in the United States. Counting two hundred dollars as the average cost for each case of appendicitis operated on, for time lost, surgeon's fee, and hospital expense, the total would reach a hundred and fifty million dollars per annum.

Appendicitis is really not a respecter of age, our youngest case having been two years of age and the oldest eighty-two. It seems that appendicitis is to a certain degree a disease of civilization and found most commonly in people who are average or above in mentality. At any rate comparatively few cases are reported from the mental hospitals, and the state with the lowest death rate from the disease has a forty-six per cent negro population. The exact cause of appendicitis is not yet fully understood. Whether the anatomical shape and make-up of the appendix, diet, or focal infection play the biggest role in precipitating the attack we would not say. We do not know.

South Carolina's death rate is the lowest; Nevada's is the highest, the former 7 per 100,000. the latter 21.8 per 100,000. South Carolina, covering an area 30,899 miles square, is thirty-ninth in size, has a population of 1,700,000, forty-six per cent of whom are negroes. It has forty-three general hospitals quite well distributed over the state. Nevada is 110,690 miles square with 91,058 people, the smallest population of any state in the union, but it has only 13 general hospitals, not well distributed.

In one series of one thousand cases of appendicitis between 1925 and 1930, 3.8 days was the average time from onset to time of operation. Another series between 1931 and 1936 showed the time to be 4.9 days, a 29 per cent longer delay during the depression. It seems that women wait longer to be operated on than men, but seem to survive the disease and the operation better than men, probably due to the resistance of the peritoneum of the pelvis.

In a series of cases reported between 1925 and 1930 24 per cent came to operation giving a history of having had a purgative or a laxative, and in a later series this percentage increased to 42. The cause of the greatest number of deaths in acute appendicitis seems beyond doubt to be due to peritonitis.

Deferred operation is a question of much importance. Some believe in cases of ruptured appendicitis and general peritonitis operation should be delayed until an abscess is formed and walled off; others make it a rule to operate as soon as the patient comes to the hospital regardless of the type of case. With the average surgeon the latter may be the safer plan.

Drainage is another question not fully agreed upon: whether to leave in a tube or gauze or simply leave the incision open. Again, some men attach importance to the incision. Personally, we usually employ the pararectus in the average case and drain the abscess at the pointing point, and almost always remove the appendix.

General supportive measures have been used pre- and postoperatively in serious cases of appendicitis for many years—saline and glucose, the Wangansteen suction to keep the stomach empty, heat tents, transfusion in some cases, etc., all of which have their value.

On January 10, 1940, sulfanilamide powder was first used intraperitoneally at the Roosevelt Hospital in New York in a desperate case of profuse peritonitis. The good result was dramatic. The local use of this powder soon became routine in this hospital. In September, 1940, a number of cases were reported in the *Mississippi Doctor* by Dr. Dees of Memphis who was then working with Dr. Lucius McGehee, the first cases to be reported in a medical journal. Since that time the sulfanilamide powder and other sulfonamides have been used generally and generously, oftentimes wonderful results in the saving of human life and in shortening the morbidity having been claimed for them. One to two drachms seems to be the average dose. The use of sulfanilamide in the abdominal cavity does not cause adhesions as far as we have been able to ascertain.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, September 1942, Amory, Miss.

Recently the possibility of depending too much upon this drug is apparent. The profession might be driving too close to the precipice, for Doctor Time is the most successful surgeon who ever operated for appendicitis and we must defer radically to him as long as there is no prophylactic measure for the disease.

The following questions were sent to a number of good surgeons:

1. Has your death rate for appendicitis decreased within the past two years; if so, to what do you attribute the decrease?
2. Has sulfanilamide played an important part in this reduction? If so, what do you consider the most effective way to use it?
3. Has sulfanilamide reduced the death rate as much or more than early diagnosis and early operation?
4. Are purgatives still an important factor in the death rate of appendicitis?
5. In your hands, what do you consider the most important factor in the reduction of the death rate?

Replies ran as follows:

DR. JOHN LUCIUS MCGEHEE, Memphis, Tennessee:

QUESTION NO. 1: Has your death rate decreased within the last two years or within the last year, and if so, to what do you attribute the decrease?

Yes, the death rate has decreased; I attribute the decrease in unruptured cases to early diagnosis and early operations. The decrease in ruptured cases I attribute to the use of sulfanilamide and proper surgical technique.

QUESTION NO. 2: Has sulfanilamide played a part in the reduction and, if so, what do you consider the most effective way to use it?

Yes; and the most effective way to use it, in my opinion, is locally—from 20 to 40 grams intraperitoneally.

QUESTION NO. 3: Do you think sulfanilamide has reduced the death rate as much or more than an early diagnosis and an early operation?

QUESTION NO. 4: Do you think purgatives are still a very important factor in the death rate?

Yes.

QUESTION NO. 5: What do you consider the most important factor in the reduction of the death rate in appendicitis in your hands?

1. Prompt diagnosis before rupture and ensuing peritonitis.

2. Appendectomy before perforation.

QUESTION NO. 6: What would you offer as the most important measure for further reduction of the death rate in appendicitis?

A better appreciation on the part of physicians of the clinical signs and symptoms of acute appendicitis in order that a diagnosis of acute appendicitis may be made before perforation and when the diagnosis is made, immediate operation.

Whenever the rank and file of physicians realize that all deaths from appendicitis are unnecessary deaths; whenever they realize that death results from an error due to either ignorance or criminality on the part of the two people concerned: the patient or the physician; whenever the physicians realize fully that patients dying of appendicitis do not die from appendicitis per se but from the complications of appendicitis; whenever they realize that appendectomy before the development of complications will result in no mortality—then, and not until then will the mortality rate of appendicitis cease to be a problem.

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DR. R. L. SANDERS, Sanders Clinic, Memphis, Tennessee:

The death rate from appendicitis has not decreased within the past two or three years, and I have no criteria for a lowered mortality. My death rate has been almost nil for the past ten years.

With reference to your second question, I have been using sulfanilamide, but I do not see any change in the death rate since beginning its use. I am convinced, however, that the drug has value in the control of peritonitis, and especially of infection of the abdominal wall. I believe the most effectual way to use it in perforated cases is to place 100 gr. or more in the peritoneal cavity and in the abdominal wall, and institute drainage. If there is no perforation, the wound may be closed without drainage. If there is much evidence of systemic infection, the drug should also be given intravenously or subcutaneously during the first five days postoperatively.

In your third question you ask if the death rate has been reduced as much by the use of sulfanilamide as by early diagnosis and early operation. I can answer this definitely, no. After all is said and done, there is no substitute for early diagnosis and early operation in the management of appendicitis. The drug is undoubtedly of value, but it certainly does not take the place of proper treatment in the early hours of appendicitis.

Your fifth question is: "Are purgatives still an important factor in the death rate?" The answer is yes. Practically all our patients with perforated appendices have had a purgative. This is probably the most vicious feature of the appendicitis problem, other than delay.

Your sixth question is interesting in that it asks what is the most important factor in the reduction of the death rate in my hands. This, of course, carries a personal equation. I can answer it thus: We operate on a large number of patients with acute appendicitis; many have perforations, though the large majority do not. Early diagnosis and early treatment is the prime factor in our success. In the second place, a McBurney incision is essential. By using it, the general peritoneal cavity is not invaded and infection is not scattered, being more or less localized to the right side and outer gutter. The third most important factor is leaving the wound open after the perforated appendix has been removed, and instituting drainage. The peritoneum is closed sufficiently around the cigaret drains to prevent the escape of a loop of bowel, but the abdominal wall is left open. This prevents an abdominal wall infection superimposed upon the peritonitis and has a definite influence on the death rate. For many years we have been treating our patients along this line and our mortality has been exceedingly low, as stated before. Since the introduction of sulfanilamide, we have used it intraperitoneally and in the abdominal wall, and also systemically. The wounds have healed quicker, there is less drainage, and the specific symptoms are brought under control earlier, though our death rate has changed but little, if any.

I hope you will not misunderstand my viewpoint as to the value of the sulfanilamide products as an adjunct to surgery. They are certainly valuable, but not the answer to the control of the death rate.

Your final question, as to what I would offer as the most important measure for further reduction of the death rate, has been answered above. Summing the whole problem up, I would say early diagnosis and early operation, the use of the McBurney incision, gentle handling of the tissues in removal of the appendix, leaving the abdominal wall open and draining in perforated cases, and supplementing these measures by the use of one of the sulfonamide drugs.

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DR. J. W. BARKSDALE, Jackson, Mississippi:

I am unable to report a decreased death rate from appendicitis in the last two years for the simple reason that we have not had an appendiceal death since 1934.

It is now and has been my contention for many years that someone is at fault whenever there is a death from appendicitis. It may be the fault of the patient in that he does not present himself for an early diagnosis or the fault of the doctor in that he does not refer him sufficiently early to the surgeon or the fault of the surgeon because he does not recognize the necessity for an immediate operation.

It has been my practice for many, many years to operate on every case of appendicitis just as soon as the diagnosis is made.

In the instance of one death in 1934, this man was an engineer on the Illinois Central Railroad and was aware of the fact that he had trouble with his appendix. While on his engine at Laurel, Miss., his appendix ruptured at about eleven o'clock in the morning. Of course, he should have been promptly operated upon at Laurel but he came back to Jackson, arriving at four o'clock the next afternoon when we found him with a fatal peritonitis. If this man had been operated upon at the time of rupture we think that he would have gotten well.

We have used sulfanilamide in some cases where rupture has occurred but as for a comparison we are not able to make it for the reason stated above. Where rupture has occurred and peritonitis is present, I have, for many years, advocated free drainage with the tube extending to the bottom of the pelvis with a change of dressing *just as often* as it becomes satured and our standing order is, *whether the dressing becomes satured or not,* to change the dressing every thirty minutes for a period of from eighteen to twenty-four hours. A dressing that becomes satured no longer drains, as drainage is capillary in its nature, hence the frequent change of dressing.

As to your question about purgative, I think that it is a very unwise procedure and, undoubtedly, hastens early rupture.

I believe that the most important factor in the reduction of mortality from appendicitis is prompt recognition of the condition and operation just as soon as the diagnosis is made.

* * * * *

DR. E. L. HENDERSON, Louisville, Ky.:

My death rate in appendicitis has been very low for a number of years — less than 1%. Therefore I do not think I have really had a decrease in death rate. However, I have been using sulfanilamide quite freely in the abdomen—from 1 to 2 grams to as much as 12 grams, in cases of ruptured appendix, especially with peritonitis, and the results have been exceptionally good.

Probably in the last year or more, the mortality rate would have been higher had I not used sulfanilamide. At least, I think it would have been. I think the most effective way of using it is to put it in the abdomen quite freely, especially down around the stump of the appendix.

In my opinion, sulfanilamide, or any other drug, has not reduced the death rate as much as early diagnosis and early operation. Purgatives are still very responsible factors in the death rate and especially so in the ruptured appendices that we see. The majority of these cases of ruptured appendix have had purgatives, usually administered by the family before the doctor has been called. I would say that early diagnosis and early operation have been the most important factors in reducing the death rate in my cases.

The most important measures for the future reduction of the death rate in appendicitis is educating the public to the fact that purgatives should not be given in cases of pain in the abdomen but that a doctor should be called.

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DR. A. STREET, Vicksburg Sanitarium, Vicksburg, Mississippi:

1. Our death rate from acute appendicitis has not decreased within the past two years or within the past year.

2. While there is no evidence that sulfanilamide has played any part in mortality reduction, it has probably effected a decrease in morbidity. I think convalescence has been smoother since the use of sulfanilamide, and complications fewer. More wounds are closed without drainage, and this has shortened the healing time and obtained better and stronger scars. I usually leave about two drachms of sulfanilamide in the peritoneal cavity, then close the peritoneum, the transversalis and internal oblique, and then put about one drachm beneath the fascia of the external oblique, and then complete the closure of the wound.

3. I think the value of early diagnosis and early and skillful operation is vastly more important in the treatment of acute appendicitis than the use of sulfanilamide.

4. In spite of our attempts to warn the public and the profession of the danger of administration of purgatives to patients suffering from undiagnosed abdominal pain, we still too often see patients with spreading appendiceal peritonitis, or ruptured appendix with abscess formation, who give a history of having taken a purgative one or more times since the onset of their illness. Purgatives are still a very important factor in the mortality and morbidity of acute appendicitis.

5. I would consider the most important factor in the reduction of the death rate in appendicitis, in my hands, to be avoidance of delay in bringing the patients to the hospital.

6. I would consider prompt diagnosis and treatment the most important measure for further reduction in the death rate of appendicitis.

During 1935 of 1,719 admissions there were 67 cases of acute appendicitis, including cases with ruptured appendix and various degrees of peritonitis. The mortality for 1935 was zero.

In 1936 of 1,997 admissions there were 75 cases of acute appendicitis, and no mortality.

In 1941 of 2,621 admissions there were 154 cases of acute appendicitis with two deaths.

In the first seven months of 1942 there were 1,768 admissions with 98 cases of acute appendicitis and no deaths.

* * * * *

DR. J. K. AVENT, the Grenada Clinic, Grenada, Mississippi:

Ruptured appendix and appendiceal abscesses are still common but a death from a ruptured appendix, appendiceal abscess or peritonitis from a ruptured appendix is rare. A great part of this is due to sulfanilamide and more to sulfathiazole used in the abdomen and given by mouth after operation. Transfusions are very supportive and also a great help.

Bellyache should have an examination by a doctor before a purgative is given and he should be most alert as to appendicitis before he gives a purgative. The most important factor in my hands in reduction of death rate is a dry abdomen, sulfathiazole powder in the abdomen and sulfathiazole by mouth, transfusions and glucose. The most important for still further reduction in the death rate of appendicitis would be for each local and county medical society when they have a patient to die from a ruptured appendix to post the name of the patient, the name of the home doctor, and the surgeon. Some doctors insist on holding their patients until the appendix is ruptured and seem never to learn a lesson from those they now have out in the cemetery.

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Dr. V. B. Philpot, the Houston Hospital, Houston, Mississippi:

Our death rate has been decreased somewhat during the last two years, which decrease I think has been due to the use of sulfanilamide in the abdomen as well as by mouth, and also the open-air treatment practice used by Dr. Gamble.

In reference to purgatives, I think they are indeed a very important factor as a cause of death in suppurative appendicitis. In fact, all cases would have a much better chance of recovery if no purgatives were given and especially in the leaking cases.

The most important factors as I see it in reducing the death rate in appendicitis are:

(1) *above all, to operate early even though an accurate diagnosis has not been made,*

(2) to refrain from purgatives of all kinds,

(3) to employ the open-air treatment and the sulfa drugs in the ruptured cases, and of course plenty of fluids intravenously.

* * * * *

Dr. John C. Henthorne, Mississippi Baptist Hospital, Jackson, Mississippi:

Your interest in chronic appendicitis is certainly justified as there seems to be a small but definite group of patients who are relieved of chronic symptoms by removal of an appendix that shows no signs of inflammation. Of course, the pendulum swings back and forth and now I believe that general opinion is against the idea that there is a real chronic appendicitis. However, if for any reason the appendix was obstructed at the base you may be reasonably certain that your patient suffered colic from this obstruction. Dr. Wangensteen has written some very useful articles on the subject of obstruction of the appendix.

* * * * *

Dr. M. L. Flynt, Flynt Medical and Surgical Clinic, Meridian, Mississippi:

In looking over our records, we find that we have not lost a single private case, notwithstanding the fact that we have had at least three referred cases that were abscessed and ruptured at the time of operation. The appendices were removed, the abscessed cavities cleansed, and sulfathiazole powder was used intraperitoneally. We took the risk of closing one of the ruptured cases without drainage. The patient developed a cul-de-sac abscess about two weeks later which drained itself through the rectum, and the patient made an uneventful recovery. There is no doubt in our minds that sulfanilamide saved this patient's life. We firmly believe that the sulfonamide group is a wonderful adjunct in the treatment of delayed cases of appendicitis and without it many of these cases will die.

Notwithstanding the wonderful help from the sulfonamide group in the treatment of the delayed cases of appendicitis, we are of the firm opinion that early diagnosis and early operation is the sheet anchor in reducing the mortality of this disease, and we contribute our success for the past two years to early diagnosis and early operation.

All of the referred cases as mentioned above had had purgative with castor oil which, no doubt, had its effect and was the main factor in causing the abscess and rupture.

We are advising all of our patients that operation should be done with the first attack of appendicitis and as early as the diagnosis has been made. We tell them that the statistics all over the country show that we have no mortality when this is done and that the death rate comes from the cases who prefer postponing the operation until the second or third attack.

* * * * *

Dr. M. Y. Dabney, Birmingham, Alabama:

I feel certain that the sulfa drugs have played a most important role in lowering the mortality rate in peritonitis, though nothing will take the place of early diagnosis. Sulfa drugs, preferably sterile sulfanilamide and sulfathiazole powder mixed, in the peritoneal cavity are infinitely more efficacious in peritonitis and as a prophylaxis than the same drugs only taken by mouth or intravenously.

Other factors lowering appendicitis mortality are blood transfusions, glucose intravenously, spinal anesthesia with pontocaine, and especially the avoidance of other anesthesia.

* * * * *

Dr. Everett H. Crawford, Walthall Hospital, Tylertown, Mississippi:

During the past four years we have had 228 operations for acute appendicitis with three deaths and a mortality rate of 1.3%. No deaths occurred in uncomplicated cases.

We feel that there are three important factors in lowering the mortality rate from this disease:

(1)early diagnosis and early operation

(2) operative technique in which the appendiceal stump is inverted but not ligated (after the method of Dr. Alton Ochsner)

(3) the use of sulfanilamide crystals locally in all complicated cases. (Dr. J. Gordon Dees). Review of deaths:

MRS. I. B., age 44, with acute onset of colicky abdominal pain four weeks before admission. Two days before admission pain became excruciating and vomiting continuous. At operation there was a large inflammatory mass in the region of the coecum involving the appendix, omentum and ileum. A loop of ileum was caught in the mass and obstructed with distended ileum distal to this loop. We feel that earlier operation and possibly the local use of sulfonamides may have prevented this death.

MR. E. B., 65, was admitted with the signs and symptoms of acute generalized peritonitis of two days' duration. At operation a perforated appendix with extensive gangrene was merely drained. He expired on the fourth postoperative day.

MRS. M.S., age 84, came to the hospital with abdominal pain and tenderness in the right lower quadrant. There was a small mass in the lower right side. She was treated conservatively for ten days, after which the mass was drained proving to be periappendiceal abscess. She developed a fecal fistula and died of peritonitis on the ninth postoperative day.

* * * * *

DR. J. P. CULPEPPER, JR., Hattiesburg, Mississippi:

I think the sulfa drugs have been a wonderful help in suppurative cases. It has been my practice to put from four to eight grams of sulfanilamide power in the abdominal cavity in those cases where gangrene or perforation has taken place. I usually follow this up with large doses of sulfathiazole per rectum for the first twenty-four hours following operation, then sulfathiazole by mouth as long as indicated. I do not think, however, that the use of the sulfonamides can take the place of early diagnosis and operation, for to my mind these are still, and will always be, the important factors in determining the mortality rate. I still think purgatives play a very pernicious part in our death rate. The only case I have lost from appendicitis in the last year was a woman sixty-two years old who had been sick a week before coming to the hospital and had had several purgatives. The appendix had evidently been ruptured for days. I have had numerous other very bad cases but they have all been fortunate enough to get well.

* * * * *

DR. HARVEY WILLIAMS, La Garde General Hospital, New Orleans, Louisiana:

We have had no deaths in two years.

My opinion is that sulfanilamide intraperitoneally and in abdominal wall layers and later by mouth has caused a great reduction over the country not only in mortality but also in morbidity.

Early diagnosis and early removal will continue to outshine any other treatment of appendicitis. Always use sulfanilamide after rupture.

Purgatives had been given in most of our ruptured cases, also causing a more diffuse peritonitis.

There are many most important factors in the reduction of the death rate.

(1) Surgical judgment requires a decision, when to operate if seen late. (2) Small McBurney incision carries one half the mortality and morbidity of a right rectus or midline incision. (3) Everything else left alone if not absolutely necessary helps to conserve life. (4) Postoperative care. (5) Type of anesthetic.

For further reduction of the death rate in appendicitis teach not only yourself but those fine medical men who refer these cases to you. This is a hard painstaking job but the medical men who have been used to bringing in many ruptured appendices will begin to see the difference if they are shown. They are just as eager to help you and learn from you as you are from some other good man. Appendicitis should never be treated unless by the surgeon who finds it is too late to operate without a period of supportive treatment and preparation.

* * * * *

DR. JAMES W. BODLEY, Memphis, Tennessee:

I believe there has been a reduction in the death rate of appendicitis in recent years. This I attribute first, to the early recognition of the disease by both the doctor and the family; second, by proper surgical treatment of operating immediately on the diagnosis of appendicitis where there has not been a rupture. Where the blowout has occurred, by operating at the proper time, with the localization of the abscess and by primary drainage without removal of the offending organ until a later date, the infection is not spread.

Sulfanilamide has also lowered the death rate in that it attacks the infection where it is. I believe the most effective way to use it is locally in doses of 20 to 40 gms. poured into the abdomen around where the appendix was or is. I like sulfanilamide better than one of the other sulfa drugs.

I believe purgatives are still an important factor and should not be used. Possibly the laymen have been educated enough so that fewer are giving purgatives in bellyache without the doctor first seeing the case.

I believe the most important factor in the reduction of death rate in appendicitis is getting the case early and not waiting for developments.

* * * * *

Dr. J. T. Doster, Jr., Doster Hospital, Columbus, Mississippi:

Our records for appendectomies are complete only for 1941 and 1942. During these two years I have done 172 appendectomies; but 32 of these appendectomies were incidental to other operations; 140 were primary appendectomies. I had one death; this occurred following the removal of a ruptured appendix.

I have felt several times that this death was due to faulty technique. Sulfanilamide was used and he did very well for four days until he received an enema. Following the enema he developed the typical signs of peritonitis and promptly expired. I felt that in all probability the enema "blew his stump out."

Sulfanilamide undoubtedly has cut down our morbidity; but I doubt whether it plays the all important role that some ascribe to it. I think the most important role of sulfanilamide is the prevention of abscesses or peritonitis in the presence of gangrenous appendices which have not ruptured, but I question the good sulfanilamide does in the actual presence of pus, and yet, those who are so enthuiastic about the drug in the abdomen claim that it has its best results in virulent spreading peritonitis.

I think the early diagnosis of appendicitis has done more than any one factor to decrease the death rate. If we consider that the death rate from simple appendices should be almost nil, then I think the one factor that has reduced the death rate in the more complicated forms of appendicitis is the Wangansteen suction apparatus; since it keeps the abdominal viscera and the peritoneum quiet in conjunction with morphia and prevents the many complications which may ensue. I have not seen more than one or two appendices which I honestly thought were ruptured by a purgative in the last several years. The early diagnosis is the all important factor in the reduction of the death rate of appendicitis.

* * * * *

Dr. E. C. Parker, Gulfport, Mississippi:

My experience is at least forty per cent less death rate since the use of sulfanilamide. I usually put 8 grams in the abdomen and abdominal wall and close the incision, then give sulfathiazole by mouth if the patient can take it; if not, I give neoprontosil by hypo.

Another help is the general practitioner sending cases to the surgeon earlier.

* * * * *

Dr. Lawrence W. Long, Jackson, Mississippi:

The death rate from appendicitis has markedly decreased in the past several years in our hands. This is due, we feel, to the education of the public, to the increase in hospitals, to the removal of the surgical phobia, and the better application by the surgeons of surgical principles. Sulfanilamide, in my hands, has saved some lives, but it also has given us the backing which we required to force us to exercise good surgical judgment. That is certainly true in the abolition of drainage. Nothing could reduce the mortality as much as early surgery in a beginning case of appendicitis. I am of the opinion that a large dose of morphine causes the rupture of an appendix, which is on the point of rupture, as much, or more, than any purgative. I do not know whether you agree with me in this factor or not. The most important factor that I find is early diagnosis, early operation, easy and prompt hospitalization, assisted by good roads and numerous hospitals.

In the majority of instances, appendiceal peritonitis will be cured by sulfanilamide applied in a powdered form into the peritoneal cavity without drainage, supported by transfusions and infusions. I feel that the most important measure for future reduction of the death rate in appendicitis is education, both to the civilians and the physicians.

CONCLUSION

From a review of the literature and these replies it seems that a most helpful measure is sulfanilamide for the serious cases, but an early diagnosis and an early operation are all important. Most cases are comparatively easy to diagnose; a few will baffle the most astute diagnostician. It is well to inform the laity by mouth, by lay press, by picture show and in the office, that any pain in the abdomen that lasts for one full hour without a let-up should be counted appendicitis until his doctor can prove it otherwise, everything being withheld by mouth until the doctor examines the patient. It would be better to be operated by a general country surgeon even in a six-bed hospital within six hours of the onset than to have the services of a Mayo in the largest hospital in the world three days later. *Doctor Time* is our most successful surgeon for acute appendicitis. Doctors should know very definitely the symptoms of appendicitis: constant pain in the abdomen, more commonly in the epigastrium or across the abdomen or around the naval; nausea, and maybe vomiting; local tenderness over appendix, fever, and an increased leucocyte count. If the patient is awakened in the night by this abdominal pain it is still more significant, and a still further aid is the willingness of a patient who has said many times he will not be operated, now to go to the operating table.

A look at the appendix through the tips of the surgeon's fingers is the most certain way to make sure of a diagnosis, especially if the fingers have been fully trained by both experience and Golden Rule honesty. More vigilance and more alertness on the part of the profession, plus persistent education of the laity for early diagnosis, will spell total effort, and ultimately reduce the death rate to nil through prevention of the ruptured appendices which prove fatal.

It is the common fate of the indolent to see their rights become a prey to the active. The condition upon which God hath given liberty to man is eternal vigilance; which condition if he break—servitude is at once the consequence of his crime and the punishment of his guilt.

—John Philpot Curran.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Let us have information of special interest about our doctors in the service. We hope to help keep in touch through Our Doctors in the Service column.

Memphis, the medical profession and the Columbian Mutual Life Insurance Company lost a most able and accomplished man in the death of Dr. James L. Andrews. He was not only able in the medical profession but was a versatile man and a most lovable character. We feel the loss of a very highly valued friend.

Everything else being equal, we want to ask you to buy from the houses which advertise with us. It will not cost you anything to do this and it will be a very great help to the journal at this crucial time.

Mississippi, Memphis and the mid-South are greatly grieved over the death of Dr. Peter Whitman Rowland, Jr. He was talented in many ways and very able in his chosen profession. We extend our deepest sympathy to his family, especially to his father who has been an outstanding leader in organized and scientific medicine for many years.

You will do well to consider carefully Dr. Harvey Garrison's message in the last issue of the journal. It is time to be on guard for the fundamentals in medicine. At the beginning of the World War II, we had about fifteen to twenty per cent less doctors than we had fifty years ago, against a doubled population. To have furnished more than a 150 per cent of our quota to the armed forces certainly leaves us with a home problem. It is bound to tend to cheapen medical service, which intensifies the challenge to those left at home. We must also keep in mind the return of our doctors to Mississippi.

The Mid-South Postgraduate Medical Assembly, except for one or two meetings, has functioned for more than a half century. We sincerely regret that it is not to meet this year in February. We doubt the wisdom of not having it. We can not gather medical strength by irresolution and inaction. The excuse of a little time out and a few gallons of gasoline must not be mistaken for the desire to follow the line of least resistance and to be able to add a few more dollars in profit. The doctors left behind must straighten the traces to total medical service to the people at home. A chain breaks at the weakest link. Home defense must be kept as strong as other parts. New Orleans instituted an assembly similar to the Mid-South just a few years ago. It is going right ahead with its meeting this year. We congratulate them on so doing. It will be well attended by many men from Mississippi and will serve a good purpose.

One advantage, perhaps the greatest, to be had in group practice is the consultation and exchange of opinions between the members of the group. When a group of such well trained men decide to pool their interests and divide their work so as to permit each one to do the work that is most interesting to him and for which he has the greatest aptitude, certainly the patient's interests are best served. Even though such an arrangement is seldom found, the expense of going through the hands of such a group is greater than the average patient can afford. In rural districts and in small towns where only two or three doctors are to be found, practically all sickness must be treated by one doctor. But it frequently happens that the interests of both the patient and physician would be better served if consultation with some other doctor could be secured. After careful examination, complete history, discussion from all pertinent angles, and agreement reached, better and more satisfactory treatment is given. Even though the case should result in death or permanent crippling, both the doctor and the family should feel surer that the best had been done. Of course it is understood that all selfish interests and ambitions are kept strictly in abeyance. There should be much more consultation between doctors than is now the case. Doctors should share each other's burdens and responsibilities, for in doing so they broaden their field of vision and usefulness, and develop a better and closer fellowship one with the other. So I urge that we consult with our neighbors about our cases more than we have done. This practice will make us better doctors and our patients will appreciate us more and, in addition, we will learn to love each other more. Truly, "no man liveth unto himself," and the doctor who undertakes to do this neither grows nor lives. He may succeed in building a reputation as being a good doctor, he may accumulate some wealth, but really he shrivels and shrinks until he becomes a dwarf in mind and spirit. Without love and friendship to warm the cockles of one's heart, man is a failure and life but a farce.

* * *

The December meeting of the Thirteen Counties Society was a real success and proved convincingly that our meetings should not be pretermitted during the emergency as some had seemed to think. While the attendance was not so good as usual, the interest was fine and the program good. Dr. Stacy, the secretary, deserves credit and thanks for the program and Thomas-Kincannon-Elkin Drug Company merits an expression of appreciation for the splendid banquet given the members, their wives and friends, following the scientific session. A most interesting and entertaining floor show was put on at the banquet by Mr. Paul Ballard of Tupelo. He was ably assisted by Miss Coleen Berry and Mr. Robert Leake, soprano and baritone singers. Miss Berry is but sixteen years old, yet her voice promises to bring much renown to her and great pleasure to her many hearers. The guest speakers for the occasion were Drs. Chaney and Morgan, both of Memphis. We were pleased to have with us Dr. F. J. Underwood of Jackson. He still keeps his membership in this society. He is always welcome.

G. S. B.

Our Doctors in the Service

C

Julius L. Levy, son of Mr. and Mrs. Simon Levy, of New Orleans, Louisiana, received his commission as captain in the United States Army Air Corps, July 27, 1942, with instruction to proceed to Duncan Field, San Antonio, Texas. He gave up his surgical and obstetrical practice as Clarksdale, Mississippi, to volunteer in the Army Medical Corps.

Captain Levy, 39, received his M.D. degree from Tulane University, New Orleans, La., in 1928. He interned at Charity Hospital, New Orleans, La., rotating with medicine, surgery, gynecology and obstetrics. He also attended the Mississippi State Sanatorium for training in pneumothorax in 1938 and also visited clinics at the Johns Hopkins Hospital, Baltimore, Maryland, in 1940, and the Mayo Clinic, Rochester, Minnesota, in 1941.

Captain Levy has served as Group Surgeon A. D. G., Duncan Field, San Antonio, Texas, attended O. T. S. San Antonio Cadet Center, and is at present stationed as Group Surgeon A. D. G. Stinson Field, San Antonio, Texas. He is a member of the Military Surgeons of the United States Army.

Dr. William T. Black, formerly located in the Physicians and Surgeons Building, Memphis, Tenn., has been a lieutenant in the Medical Corps, U. S. N. R., since June 1, 1942. He is as present at 240 East Delaware, Chicago, Ill.

The following doctors are in the service from Amite County:

Dr. W. O. Biggs is a captain in the Medical Corps, U. S. Army.

Dr. Thomas Purser, Jr., is also a captain in the Army Medical Corps.

Dr. N. S. Holmes is a first lieutenant, and Lieut. Commander Robert H. Brumfield sends greetings from his station at the Marine Base, San Diego, California. He also is with the Medical Corps, U. S. Navy.

News and Comments

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The seventh annual meeting of the New Orleans Graduate Medical Assembly will be held in New Orleans, March 15-18, with headquarters at the Roosevelt Hotel. As in former years, a well-rounded program has been planned, consisting of lectures, symposia, conferences, clinics and round table discussions, supplemented by scientific exhibits and motion pictures. In addition, there will be the usual exhibits of established pharmaceutical and equipment houses, as well as of medical publishers.

The speakers, as will be observed from the list to be published next month in this journal, are all men of authority in their special branches, and their addresses and discussions will cover all aspects of medicine and surgery, including industrial medicine. Sister Elizabeth Kenny will present the treatment of infantile paralysis which she has been teaching elsewhere in the United States for the past year or more, and military medicine will be discussed by four representatives of the Army and Navy Corps.

Omission of this meeting because of the war was naturally considered by members of the Assembly, but it was voted unanimously to continue with it for three reasons: 1. Local medical meetings are of special usefulness at a time when national meetings have been generally suspended because of transportation and other difficulties. 2. Even if national meetings were being held, physicians could not spare the time from their practices to attend them, but can frequently plan to attend meetings closer to home. 3. At this time, when the responsibilities of physicians are increasing in both the armed services and in civilian practice, it is of more importance than ever that they be aided in keeping abreast of the newest advances in the general and special fields of medicine.

Physicians interested in attending the 1943 meeting of the New Orleans Graduate Medical Assembly are invited to register at once with the Secretary, Room 105, 1430 Tulane Avenue, New Orleans, Louisiana. The registration fee of ten dollars covers all features of the Assembly, including the daily luncheons during the four days of the meeting. Conference headquarters will be at the Roosevelt Hotel and reservations should be made as soon as possible.

WAR PRODUCTION BOARD ORDER AFFECTS VITAMIN CAPSULES

To conserve vitamin A supplies during wartime, W.P.B. order L-40 limits the content of capsules to 5,000 vitamin A units.

In compliance with this order, capsules of Mead's Oleum Percomorphum 50% with Viosterol now contains 83 mg. of oil, equivalent to 5,000 vitamin A units and 700 vitamin D units per capsule.

The new size capsule is now supplied in boxes containing 48 and 192 capsules—about twice the number of capsules without increase in price.

NEEDED

The following urgent appeal comes from Dr. Frank H. Lahey, chairman of the Directory Board, War Manpower Commission, Washington, D. C.:

"It is of the utmost importance that the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians, immediately has the name of any doctor who really is willing to be dislocated for service, either in industry or in overpopulated areas, and who has not been declared essential to his present locality. This is necessary if the medical profession is to be able to meet these needs adequately and promptly. We urgently request that any physician over the age of 45 who wishes to participate in the war effort send in his name to the state chairman for the Procurement and Assignment Service in his state."

AMITE-WILKINSON COUNTIES MEDICAL SOCIETY

The regular meeting of the Amite-Wilkinson Counties Medical Society was held at Field Memorial Hospital, Centreville, Thursday evening, January 14. With the exception of honorary member Dr. W. R. Brumfield, who was absent on account of illness, the meeting was fully attended by each member and his wife. Distinguished guests present at the meeting included Colonel and Mrs. Richard Eckhart, Miss Sawyer, directress of Red Cross Facility at Camp Van Dorn, and Dr. Weygard, director of Wilkinson County Health Unit.

The guest speaker for the evening was Colonel Eckhart whose brilliant presentation of the many medical problems of our military forces was most interesting and instructive.

The precedent of the institution for hospitality and entertainment was fully maintained and a merited vote of thanks and appreciation was given Miss Bowles, superintendent of nurses, for her splendid efforts.

It was agreed that the dues of Drs. Paul Jackson and Harrison Butler, who are now serving with the armed forces, be absorbed by the society for the duration of the war. Dr. Corinne Eddy, directress of Amite County Health Unit was elected a member of the Amite County Society. Officers of the preceding year were reëlected to serve for the forthcoming year; also, for the duration, meetings will be held quarterly instead of monthly.

Deaths

DR. J. L. ANDREWS

Dr. James L. Andrews, medical director of Columbian Mutual Life Insurance Co., who as head of Memphis Health Department 30 years ago started the tuberculosis sanatorium there, died at the Baptist Hospital, where he was admitted Jan. 1. He was 68.

Dr. Andrews was formerly professor of obstetrics at old Memphis Hospital Medical College, from which he graduated in 1895. He was born in Jackson, La.

While head of the health department, Dr. Andrews encountered an entire family suffering from tuberculosis. He obtained quarters in South Memphis and with furniture from his own home started a sanatorium from which humble beginning the present sanatorium at Oakville grew. In 1922 Dr. Andrews became medical director of Columbian Mutual.

He served as a surgeon on a British transport during the Boer War and was a major in the Army Medical Corps, stationed at Alexandria, La., during World War I.

He was a former president of Memphis and Shelby County Medical Association, member of Tennessee Club, Memphis Country Club, Woodmen of the World and St. John's Methodist Church. He lived at 1535 Carr.

He leaves his wife, Mrs. Mamie Armistead Andrews; two sons, Lt. Cmdr. Charles Green Andrews and Lt. Armistead Andrews, of the Navy at Washington; a brother, Dr. Charles Green Andrews, San Diego; two sisters, Miss Mary Andrews and Miss Lucy Andrews, both of Memphis.

DR. PETER WHITMAN ROWLAND, JR.

Dr. Peter Whitman Rowland, Jr., outstanding internist and diagnostician, was found dead in his office in the Doctors Building of Methodist Hospital. He was 49.

Dr. Rowland's body was discovered by his chauffeur, who became anxious when he did not appear at his usual tim.e He had suffered a heart attack.

Dr. Rowland had practiced in Memphis 18 years. He was on the staff of Methodist Hospital and was, for 17 years, associated with Crisler Clinic until it was dissolved last year.

He was a native of Coffeeville, Miss., having attended the universities of Mississippi, Columbia and Virginia, receiving his M.D. degree at the last. He practiced medicine at Oxford, Miss., before coming to Memphis. He was a member of Idlewild Presbyterian Church and lived at 1741 Carr.

He was a fellow of the American College of Physicians, member of American Medical, Southern Medical, American Diabetic and American Heart associations.

He was fond of music and he and Dr. Whitman, Sr., and two brothers used to make up a quartet that was well-known in Oxford.

Dr. Rowland's father, Dr. Peter Whitman Rowland, Sr., has taught at Ole Miss 41 years.

Dr. Rowland also leaves his wife, Mrs. Jane Taliaferro Rowland; his sister, Miss Mary Vic Rowland, Oxford, and a son, Peter Whitman Rowland, III.

Book Reviews

Fundamentals of Psychiatry, by Edward A. Strecker, M.D., Sc.D., F.A.C.P., Professor Psychiatry, Undergraduate School of Medicine, Univ. of Pennsylvania, Philadelphia. Published by J. B. Lippincott Company, Philadelphia, Pa. Price, $3.00, 201 pp. including index.

The author has set down in frank, clear-cut lecture fashion the essential data for the use of psychiatry. He has prepared this book at a time when the psychiatric need is thoroughly recognized. He presses the obvious conclusion: "Each doctor, whether he is a medical officer or remains in civil life to give medical aid to the noncombatant population, must needs acquire a minimum of psychiatric information and skill. . . . it is a matter of great urgency that a workable knowledge of psychiatry be made available." Members of draft boards will do well to make use of the contents of this handbook. The average taxpaying citizen who helped pay the billion-dollar treatment and rehabilitation bill for the neuro-psychiatric casualty load out of World War I would evince interest, and welcome a greater professional understanding.

"Psychiatry is a social as well as medical science," insists the author, and the context of the material presented is as usable in the classroom or by the social welfare worker as by the physician. This little handbook is an excellent and necessary addition to the office library.

The Business Side of Medical Practice, by Theodore Wiprud, Executive Secretary of the Medical Society of the District of Columbia. Published by W. B. Saunders Company, Philadelphia, Pa. 177 pp. with index. Price $2.00.

Just such a book on this particular subject has probably never been written. The author has a walking and talking knowledge of the busy practitioner's life—and shortcomings. With sympathetic understanding, he goes into office arrangement, office assistants, telephone calls, financial and case records, accounts, investments, wills and estates. He shows how inadequately most of the average doctor's business is handled for the optimum return, because "most practitioners are content to devote all of their time and thought to the practice of medicine." Mr. Wiprud frequently resorts to diagrams to illustrate his point. Especially important are the chapters on how to prepare a manuscript, how to talk in public, how to preside at meeting and other general points that influence the laity in choosing their physician.

And his discussion of competition among physicians deserves to be read by the practicing physician who is inclined to make a business of his profession. "Commercial competitive methods have no place in medicine," he avers, and proceeds to lay down the keys to building a practice. He speaks encouragingly of the opportunities that lie in the rural field.

This book may be the answer to many of the young intern's problems. It can certainly be read with profit by the man in medicine who can give competent service, though not recognized.

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Public Health—Felix J. Underwood, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.
Discussion and comments are invited.

DERMATOLOGY

Much interest has been shown recently by the medical profession, and by the public, in short intensive courses of treatment for syphilis. In fact, the idea has prevailed since the very beginning of antisyphilitic therapy that some means should be found whereby the patient could be cured in a few days or weeks, rather than in a few years. The following is a summary of some of the types of treatment that have been used and the results obtained. This report is not exhaustive but does cover the work of some of the men who are looking for a shorter but effective way to combat this disease.

From Santiago, Chile, there is a report of 271 patients treated with hydrochloride of arsenoxide (oxiarsolan). The drug was prepared by the Bacteriologic Institute of Chile. The treatment was given in a dextrose solution by dissolving the daily dose in 2000 cc. of fluid. The average dose for men was 1.2 gm. and for women 0.8 gm. in the five-day treatment period. The pregnant women were treated with no untoward results. The immediate results were excellent. There was not a single serious complication, and no deaths.

Of 69 patients followed up to seven months, 55 (80 per cent) achieved and maintained completely negative serologic reactions of the blood, 10 (14 per cent) had almost negative serologic reactions and in the case of 4 (6 per cent) the treatment was considered a failure because of persistently positive serologic reactions in one and an infectious relapse in 3.

MASSIVE ARSENOTHERAPY OF SYPHILIS BY THE CONTINUOUS INTRAVENOUS DRIP METHOD. Florencio Prats G., M.D., Luis Infants Varas, M.D., Esteban Haraszti, M.D., Santiago, Chile. Archives of Dermatology and Syphilology, V 45, No. 5, P 885, May 1942.

There is another report from Santiago, Chile, by Louis Prunes, M.D., and Hernan Hevia P., M.D., in which 60 men in the early stages of syphilis were treated with neoarsphenamine in massive doses by the drip method for three days followed by an injection of the same drug one week later. The total dose of the drug given during the treatment was 5.4 gm. The dose given one week later was 0.9 gm. Only a small number of reactions were noticed. In one case polyneuritis was observed.

Two patients failed to recover by the drip method and arsenoxide was given in the regular dosage.

These writers concluded that the tolerance to massive therapy by the drip method was better than the tolerance to the regular method of treatment.

MASSIVE ARSENOTHERAPY IN EARLY SYPHILIS. ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY V 45, No. 5, P 894, May 1942.

Doctor Arthur G. Schoch, and Lee J. Alexander of Dallas, Texas, reporting on the intensive arsenotherapy of early syphilis, gives a follow-up report on the treatment of over 350 patients by the ten-day syringe method. Of the 350 that were treated, 208 were treated by the ten-day syringe method, the technique consisting of giving 120 mg. of mapharsen daily for ten consecutive days (a total of 1,200 mg.) by rapid syringe injection. The other 142 were treated by a revised method which consisted of giving smaller individual doses over a longer period of time.

Three cases of hemorrhagic encephalitis were encountered with one death. Of the entire group 103 cases have been kept under observation from six to eighteen months. In this group 77 per cent satisfactory results were obtained (clinically and serologically). The results in

11 per cent are pending. In the remaining 12 per cent the treatment was a failure.

ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY V 46, No. 1, P 128, July 1942.

In commenting on the above reports, it is impossible to evaluate this form of treatment with any certainty, due to the short time, relatively, that it has been used. But the reports for 1942 compare favorably with the report given by Doctors Leifer, Chargin, and Hymen on the work done at Mount Sinai Hospital and reported on October 4, 1941, issue of the Journal of A.M.A. The paper was read before the American Medical Association at its ninety-second annual meeting June 5, 1941. The satisfactory results obtained ran around 80 per cent. It appears as a whole mapharsen gave the best results, and caused less reaction. One very important point in Doctors Leifer, Chargin, and Hymen's report was that of the 41 patients with seronegative primary syphilis, the results were 100 per cent.

My personal prediction in the matter is that the day is not far distant when syphilis will be treated intensively over a short period of time and cured right then and there without all of the long drawn-out treatment that we are forced to use at present. The only way that this can be accomplished is to educate the public and encourage the medical profession to lend every effort toward the detection of syphilis in its seronegative, darkfield positive stage.

PEDIATRICS

"THE INCIDENCE OF ACUTE AND SUBACUTE BACTERIAL ENDOCARDITIS IN CONGENITAL HEART DISEASE"—Raymond Gelfman and Samuel A. Levine—American Journal of the Medical Sciences, 204:324 (September) 1942.

"The protocols of four Boston hospitals were reviewed to determine the incidence of acute and subacute bacterial endocarditis and endarteritis among congenital cardiac defects. Special attention was paid to sex, age at time of death, type of cardiac defect and superimposed rheumatic infection.

"In 34,023 autopsies, 453 (1.3 per cent) contained significant congenital cardiac defects, 181 of which (40 per cent of the 453) were in patients over the age of 2 years.

"Evidence of bacterial endocarditis was present in 6.5 per cent of the 453 cases and in 16.5 per cent of the 181 cases over 2 years of age.

"The distribution of males and females was in a proportion of 3 to 2 in both the total group with cardiac defects and in those who showed infectious endocarditis.

"Sixty per cent of the patients died before the age of 2 years. For the rest, no predominance was shown in any one age group. The highest incidence of bacterial endocarditis fell in the second and third decades.

"Twenty-five (14 per cent) of the 181 hearts with congenital defects were further complicated by rheumatic infections. Congenital bicuspid aortic valve and interauricular septal defects were the most frequent underlying cardiac anomalies, and subacute bacterial endocarditis was present in 8 of these 25 rheumatic hearts.

"The incidence of bacterial endocarditis in the most significant cardiac defects was as follows: interauricular septal defects, none; interventricular septal defects, 42 per cent of all and 57 per cent of the uncomplicated cases over 2 years of age; patient ductus arteriosus, 28.6 per cent of all and 20 per cent of the uncomplicated cases over 2 years of age; bicuspid valves 17.4 per cent of all and 21 per cent of those over 2 years of age; tetralogy of Fallot, 12.5 per cent of all and 29 per cent of those over 2 years of age; pulmonic stenosis, 19 per cent of all and 29 per cent of those over 2 years of age."

COMMENT

I am fully conscious of the fact that acute or subacute bacterial endocarditis at any time is a very serious matter, and for that reason I feel that the article above is of particular importance to the practitioners of our state, hence I am submitting it for their consideration.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH IN WARTIME

July-Dec., 1942

The State Board of Health held its regular semi-annual meeting in the Medical Library on December 11 to review public health accomplishments and to pass on any necessary changes in rules and regulations governing public health procedures. Comprising the Board are the following members: 1. Dr. J. W. Lipscomb, (President), Columbus; 2. Dr. S. E. Eason, New Albany; 3. Dr. L. B. Austin, Rosedale; 4. Dr. B. J. Shaw, Slate Springs; 5. Dr. W. H. Banks, Philadelphia; 6. Dr. J. P. Culpepper, Hattiesburg; 7. Dr. S. E. Field, Centreville; 8. Dr. L. W. Long, Jackson; 9. Dr. Wm. R. Wright, Jackson; 10. Dr. Felix J. Underwood, (Executive Officer and Secretary), Jackson.

The keynote of all reports from division heads emphasized the accelerated pace of public health activities in wartime and their importance to the state and nation's welfare. Among the reports of special interest to physicians are the following:

Preventable Disease Control

The workers of this division have been busily engaged in expanding the venereal disease control program to shape it to war needs, in inaugurating a whooping cough immunization program, and in conducting malaria blood surveys in war areas affected by impounded water. Dr. A. L. Gray, Director of the Division, points out that routine work of the division has constantly increased as a result of the increasing shortage of county health department personnel and the added volume of work.

A new program inaugurated during the period was that of whooping cough immunization. This program was instituted as a result of findings during the past few years by many investigators that pertussis vaccine would either prevent the disease or reduce its severity in most children. Need for it was indicated by the fact that this disease has caused more deaths during the past few years than diphtheria, typhoid fever, scarlet fever, and smallpox combined. As with other new programs started by the State Board of Health, plans for this program included participation and leadership of private practitioners. The plan provides for distribution of vaccine to private physicians through local full-time health departments and by the Division of Preventable Disease Control for those counties not having full-time health service. It is proposed that the vaccine be given only to children from four months through three years of age, since 95% of the deaths occur in this age group.

Health departments were instructed to administer the vaccine only on a referral basis unless their physicians agreed that the departments should give it as are diphtheria and smallpox protection given. In most of the counties, physicians have instructed the health departments to give the vaccine as they saw fit. Physicians have been requesting considerable quantities of the vaccine in the full-time counties, and health departments report a brisk demand for the vaccine by the public. Since August 1, a total of 8,056 packages of vaccine has been distributed to health departments for their use and of physicians. Approximately 400 packages of vaccine have been distributed to physicians in part-time counties by the Division of Preventable Disease Control.

Since July 1, thirty-seven special disease investigators have been located, employed, trained, and assigned to counties, making a total of forty-nine now in service. These men have the responsibility of seeing that the 18,000 registrants deferred because of syphilis get under treatment and stay there and that contacts to military personnel are located and placed under treatment. This class of worker is proving to be extremely valuable in the investigation field in view of the shortage of nurses and medical personnel.

The director took part in discussions at two medical societies. One of these discussions was in regard to the proposed pertussis immunization program, and the other was in regard to typhus fever. He also investigated one outbreak of typhus fever consisting of five cases and helped to plan a rat control program.

The program of "Malaria Control in War Areas" required that a malaria blood survey be done in all military zones. In October, the director participated in making this survey in fifteen areas in which approximately 8,000 specimens were collected. The purpose of the survey was to determine the need for control measures and the effectiveness of the control program to date.

Incidence of communicable diseases has been relatively low. Only one disease, scarlet fever, showed a significant increase. In 1942 the number of cases reported has exceeded every month except one, the number of cases in the corresponding months for 1941, but the increase has not been excessive.

The intensive immunization program against diphtheria, typhoid fever, and smallpox, conducted by a physician and nurse in part-time counties through the coöperation of boards of supervisors and others, continued with splendid results. The program was completed in Attala and Scott counties and will be completed in Neshoba County by the end of December. In each of these counties, approximately 3,000 individuals have been protected against typhoid fever and smallpox, and 700 to 900 children six years of age and under have been given diphtheria protection.

Tuberculosis

During the past five months, 1,977 clinic patients were examined through diagnostic field clinics. Of this group, 138 cases were found to have minimal disease, 61 to have moderately advanced disease, 141 to have far advanced disease, and 57 to be suspicious—a total of 397 positive and suspicious cases. Of this group, it will be noted that 138 or 40.5 per cent of the known cases found were those of minimal disease. This is a considerable increase over the preceding years and is probably the result of the physicians referring the patients to the clinics when early disease is suspected and also because of the increased number of examinations in the clinics. One hundred eighty-five cases of the 397 were white and 208 of the positive cases were colored, the remaining four cases being Mexican. Two hundred ninety-nine of the total positive group were new cases. In this group 1,977 cases examined, 120 of them were found with disease other than tuberculosis, leaving 140 negative cases.

Clinics have been held in 30 counties. This compares with 8 counties in 1939, 16 counties in 1940, and 20 counties in 1941 for the same five-month period. A greater number of patients were examined than at any like period since the clinic was founded, even though only one clinician was available during this time. The number of new cases found has increased in proportion to the number of patients examined. Many of the county health officers and their public health nurses feel encouraged as the result of instituted pneumothorax treatment. A number of our patients were referred to the Sanatorium for treatment. Films totaling 1,050 were referred to the department by private physicians and county health officers for interpretation.

The tuberculosis death rate in those countries at war has already increased. Dr. D. L. Anderson, Supervisor of the Field Clinics, cautions that no exception is expected of our own country. For this reason it behooves us to use every means at our command to control this disease. We have already increased the number of our examinations and scheduled clinics about 33 per cent over the previous year.

Vital Statistics

The Vital Statistics Department is still laboring under the stress of furnishing birth certificates to thousands who must have such documentary evidence to obtain positions or Federal Commissions, and for many other purposes. The total issued monthly is approximately 12,000 to 15,000 certificates.

Final tabulations for the year 1941 have brought out the following comparisons with statistics for the previous year. During the past year there were 54,500 births as compared to 52,500 births in 1940. The birth rate increased from 24.0 to 24.7. Deaths decreased from 23,185 in 1940 to 22,573 in 1941, the total death rate for last year being 10.2 as compared to 10.5 the previous year.

Marriages increased from 34,000 to 42,000 during the two years. Divorces increased from 3250 to 3800.

There was a drop in infant mortality from 54.5 to 54.4. There was also a decrease in maternal mortality from 5.9 to 5.1. Stillbirths decreased from 2570 to 2467.

There was an increase of five deaths from typhoid fever in 1941 over the year 1940, the total for last year being 36. Marked decrease was noted in diphtheria deaths, from 61 to 40. There was a slight decrease in tuberculosis deaths. Last year the number of deaths occurring from tuberculosis was 1016. Although there was quite a rise in the number of deaths from influenza, pneumonia deaths decreased from 1033 to 953. There was a very slight increase in cancer deaths and in deaths from heart disease.

From indications, the birth rate will be practically the same in 1942 as in 1941, while there is expected quite a decrease in deaths during the present year as compared to last year. There were recorded 10,650 deaths during the first six months of this year as compared to 12,106 during the same time last year.

County Health Work

Local public health programs have had to be adjusted in keeping with the emergency conditions associated with the influx of military and civilian population and war-time needs. In certain areas of the state, public health hazards have been created which demanded the utmost vigilance and resolution on the part of the local health department personnel. The State Board of Health has rendered immediate assistance to local personnel, and as a result, there has been no unusual prevalence of disease in any section of the state, states Dr. J. A. Milne, Director of County Health Work.

The State Board of Health has been greatly handicapped because of the loss of qualified and trained personnel who have been called to the armed forces or have resigned to accept other positions or to be with members of their family who have moved out of the state. As a result of these terminations of service, there is at the present time a need for county health officers, public health nurses, sanitation supervisors, and dental hygienists in the full-time departments. Unusual effort has been put forth to recruit all types of personnel.

Although the need has been urgent, the preliminary period of training has been kept at a high level. Thus, newly employed personnel assigned to the local health departments have been well versed in public health practices and procedures prior to assuming their duties.

Some assistance has been given by the United States Public Health Service in furnishing medical officers, public health nurses, and engineers to the state. These have been placed in supervisory or administrative positions in and around the various defense areas.

Older physicians after preliminary training in public health have been appointed as health officers in a few counties. During the past six months, four women physicians have been employed after a careful appraisal of their education, training and experience. Following a preliminary period of observation and training in the public health program in Mississippi, two of these women physicians are serving as acting health officers while two are serving as assistant health officers. All are rendering satisfactory service.

Several health officers and sanitation supervisors have been called to military service and given only a short time in which to report for duty. The boards of supervisors of adjacent counties have permitted their personnel to assist in carrying out essential and emergency health services in these counties until such time as a health officer or sanitation supervisor could be secured.

Several counties which had made appropriations for the support of full-time health service have been unable to have such service inaugurated due to the inability of the State Board of Health to secure trained personnel. In order that these counties might have limited protective health service until such time as a health department could be established, a clinician and a public health nurse have been carrying on an immunization program. This program has provided a minimum of two months' service for each county. Counties in which such a program has already been conducted are Wilkinson, Franklin, Scott, Attala, and Neshoba.

Realizing the value of public health, the boards of supervisors in the sixty-five counties having full-time health service have continued their appropriations without any reduction for the next fiscal year.

Laboratory

A total of 194,780 specimens was examined during the period July 1, 1942—October 31, 1942 as compared with 163,780 specimens examined during the same period of 1941, according to Dr. H. C. Ricks, director, Division of Laboratories.

The Laboratory has coöperated with the divisions of Preventable Disease and Sanitary Engineering in their efforts to solve problems of disease diagnosis, prevention and control. Assistance in solving problems of water and milk sanitation has been rendered to the Division of Sanitary Engineering, municipalities, military establishments and county health departments.

The laboratory has coöperated with the selective service, and the medical departments of the Army, Marine Corps, and Navy by making serodiagnostic tests for syphilis on all registrants called for examination for military service and volunteers entering the armed services. The examination of specimens from the genito-urinary tract has been made for the diagnosis of gonorrhea in registrants and volunteers where this disease is suspected.

Coöperation has also been rendered to the medical personnel of the various military establishments located in the state by examining specimens submitted for laboratory examination to assist in solving the laboratory diagnostic problems confronting the medical personnel.

The volume of work, especially in serology, has necessitated overtime work on the part of clerical personnel and the personnel of the serology section. It has been necessary for these sections to work entire Sundays on several occasions during the period.

A summary of work accomplished comparing the period of 1942 with the same period of 1941 follows:

Blood specimens for agglutination tests and culture	3.727	2.516
Specimens from suspected primary and secondary lesions for darkfield examination for diagnosis of syphilis	64	37
Specimens for laboratory diagnosis of diphtheria	4.475	6.487
Feces specimens for isolation and identification of pathogenic enteric bacteria	3.500	5.112
Specimens from genito-urinary tract and eyes for diagnosis of gonorrhea or ophthalmia neonatorum	2,985	3.105
Feces specimens for identification of intestinal parasites	8,396	11,048
Blood specimens for diagnosis of malaria	7.714	11.715
Specimens of milk for bacteriological and chemical examination	1.835	1.960
Specimens for miscellaneous examinations such as blood counts, spinal fluid, cell counts, and the like	947	952
Specimens of sputum and other fluids for typing of the pneumococci	10	7
Animal brains for diagnosis of rabies	90	86
Blood specimens for serological tests for diagnosis of syphilis	140.850	95,931
Specimens of spinal fluid for serological test for diagnosis of syphilis	1.131	537
Specimens of bovine and porcine blood for diagnosis of contagious abortion	9,786	8,905
Specimens of sputum and other body fluids for laboratory diagnosis of tuberculosis	1,934	2,366
Specimens of urine for routine chemical analysis and microscopic examination	2,217	5,948
Urine specimens for isolation and identification of pathogenic enteric bacteria	3,007	4.621
Water specimens, public and private, for chemical analysis	37	34
Total specimens examined	194,695	163,780

* * * *

Antirabies treatments prepared and distributed at cost.......	446	422
Typhoid vaccine prepared for distribution without charge to physicians and health departments	237,120cc	210.200cc
Culture media prepared for use in bacteriological examinations	1,864,300cc	1,981,100cc

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Woman's Auxiliary

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DR. GAY STRESSES CANCER CONTROL

Dr. Emma Gay of Biloxi, head of the Mississippi Division of the Women's Field Army, has just completed a course at the Field Army Officers' Training School. In reporting on the lectures by Dr. C. C. Little, Dr. Frank Adair and Dr. James Ewing, she stresses the following pertinent objectives and status of the organization:

(1) The program should be primarily in the hands of lay women rather than men for the following reasons:

(a) It requires intimate, sympathetic, individual contacts which will invade the homes and family life of many persons.

(b) It requires patience to a greater extent than any other public health problem.

(c) It requires volunteer work which will be time-consuming, continuous and detailed.

(d) It deals with types of cancer peculiar to women.

(e) More women than men die of cancer of types curable in their early stages.

(f) Women have presented themselves and will continue to present themselves for periodic examinations more regularly and conscientiously than men.

(2) The most promising group of intelligent, organized adult women in America is the General Federation of Women's Clubs which has many coöperating units in each state and already supports public health programs.

(3) The program should be organized so that it will not conflict with any existing public health activity.

(4) The program should be militant, aggressive, optimistic and imaginative in order to catch and hold the spiritual support of those who volunteered.

Women's Field Army today stands as a great and unique volunteer attack on civilization's most sinister menace to health, security and happiness. Today its 28,000 officers and over 200,000 enlisted members form an organization which will not let the problem of cancer control regress or remain inactive. The results of six campaigns have been consolidated and analyzed so that those of the future will go forward with assurance, dignity and keep human understanding. A body of lay workers has been developed and equipped in the United States to a higher degree of effectiveness and to a greater degree of future promise than in any other country at any other time.

Dr. Gay has also given a series of lectures herself in the northern part of the state. She talked in Columbus on January 12, at Fulton, at Calhoun City, at Bruce and at Houston all in successive engagements the same week.

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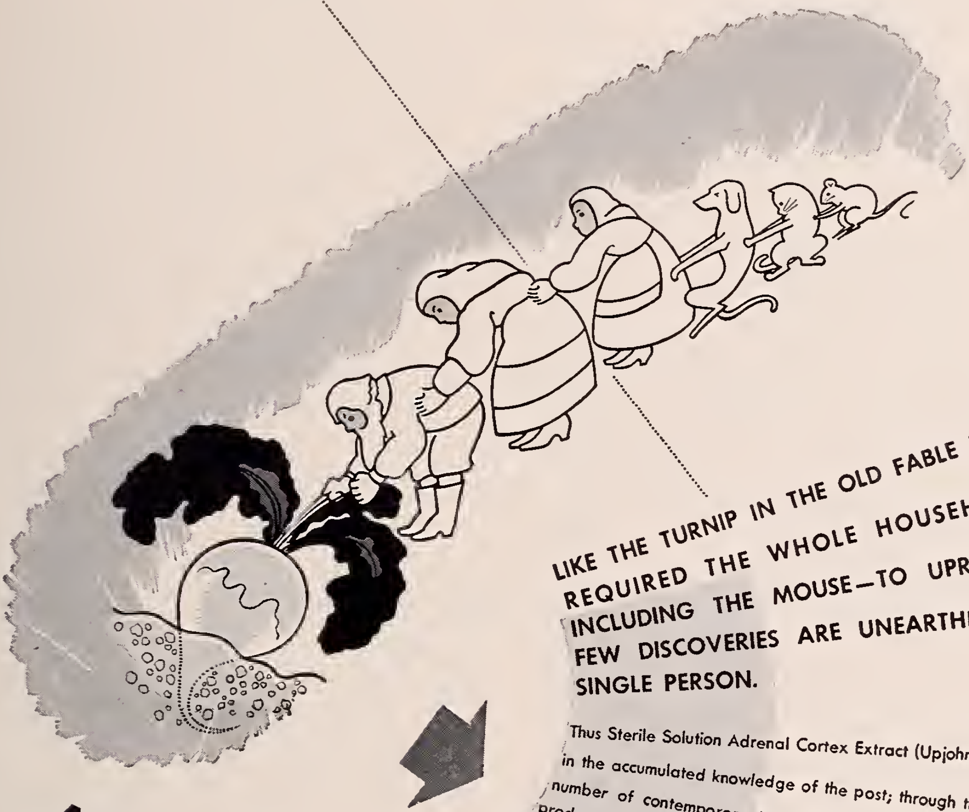

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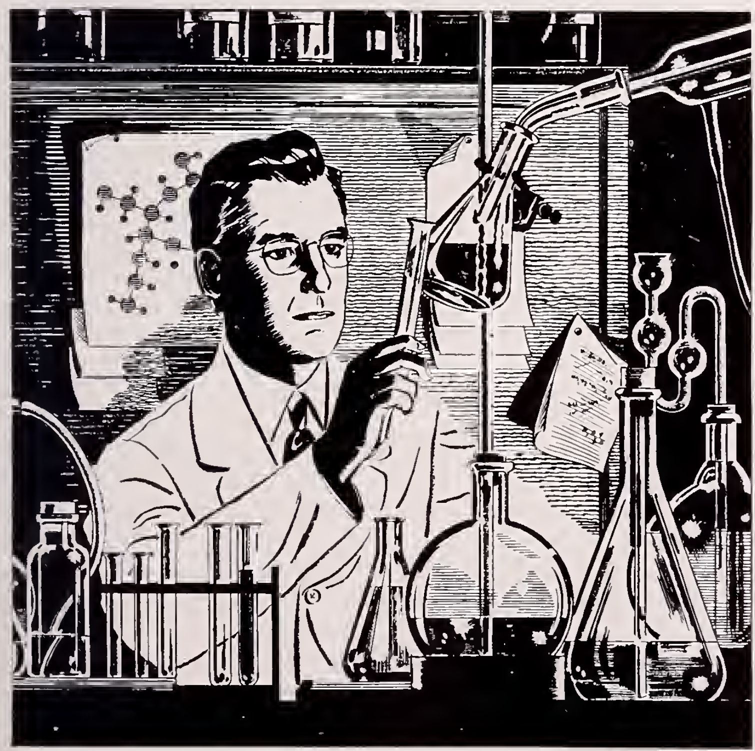

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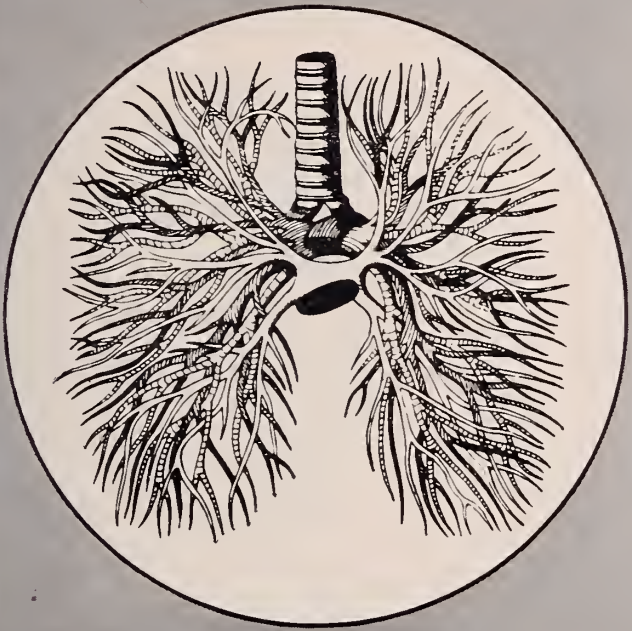

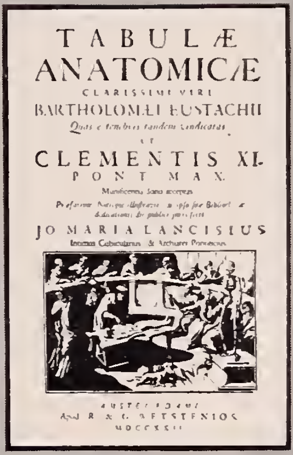

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ET
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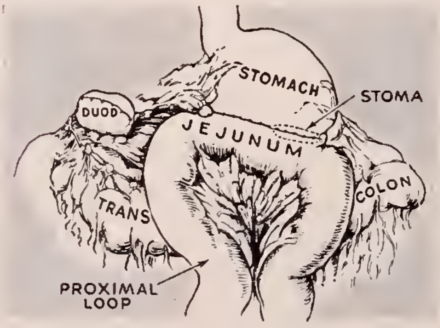

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1. *Fauley, G. B.; Freeman, S.; Ivy, A. C.; Atkinson, A. J.; and Wigodsky, H. S.;* Aluminum Phosphate in the Therapy of Peptic Ulcer, Arch. Int. Med. 67: 563-578 (March) 1941.
2. *Marshall, S. F., and Devine, J. W. Jr.;* Gastrojejunal Ulcer, S. Clin. North America, 743-761 (June) 1941.

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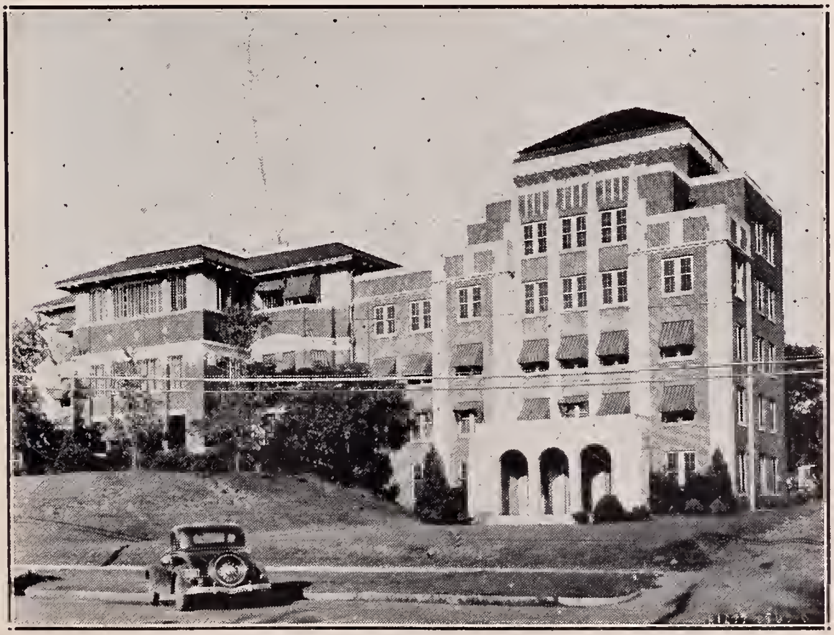

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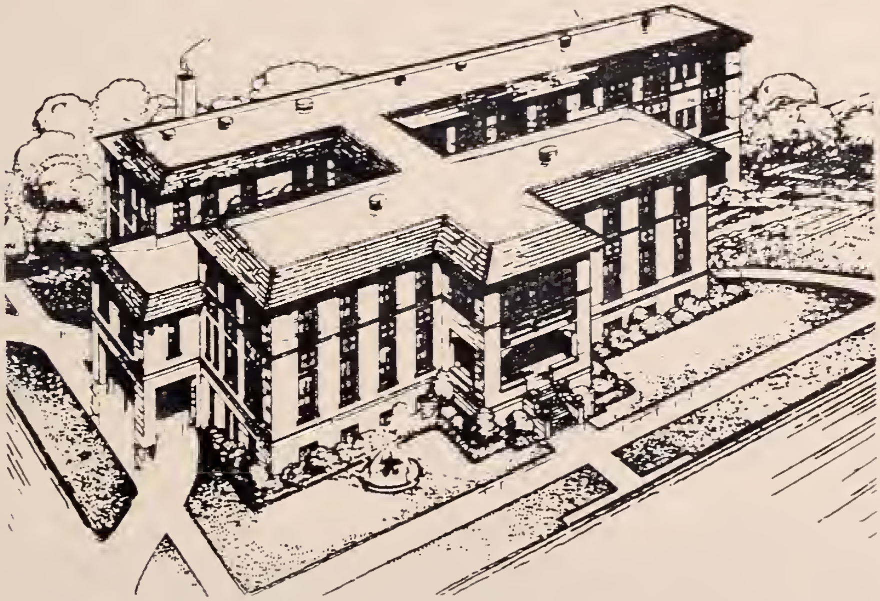

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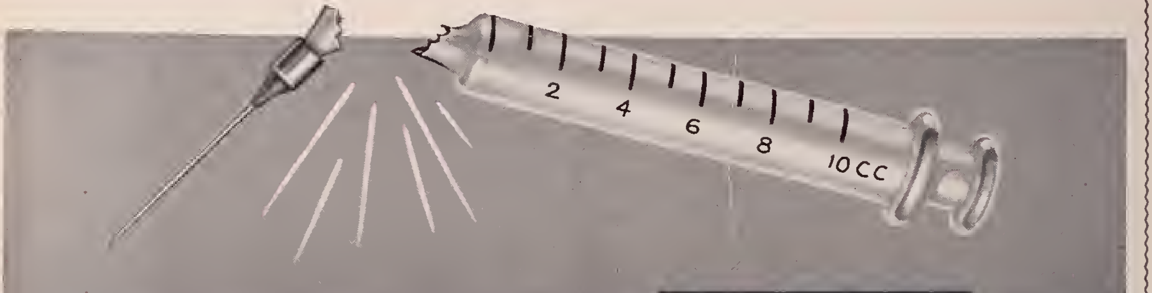

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Some Aspects of Cancer of the Stomach*

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THE CONTROL of cancer is one of the important problems of the world. At present, of course, the war dominates everything else, but even in warfare the control of cancer is important. Cancer has increased greatly. For the last few years the deaths from cancer in the United States have been about 150,000 each year. Thirty years ago the deaths were about half of this. Eusterman of the Mayo Clinic estimates that about one-third of deaths from cancer are from cancer of the stomach.

Cancer of the stomach is responsible for more deaths than cancer of any other one organ. Cancer of many other portions of the body, as the skin, is far more frequent than cancer of the stomach, but it is more readily observed and cured, so that it does not reach the mortality rate. It is often erroneously stated that cancer of the stomach is the most common cancer of the body. It is the most deadly, but not the most common.

The control of cancer, and particularly of the deadly type of gastric cancer, is not only a humanitarian but a military problem. If there are more than 150,000 deaths from cancer every year in the United States, it is estimated that there are probably three living cases of cancer for every cancer death, and this would make a total of about one-half million persons suffering from cancer in this country at one time. Many of them require at least one attendant, and some of the patients who can afford it have two or more attendants, often trained nurses whose services are so greatly needed in the war effort. If we assume, then, that there is an average of one attendant for each cancer case, giving either whole or part-time attention, it will make the figure about one million persons who are more or less absorbed by cancer. The reduction of the incidence of cancer and the cancer death rate would naturally release many of these individuals for military service, quite aside from the saving of life and the reduction of suffering.

There is only one effective treatment for cancer of the stomach and that is excision by surgical operation. Occasionally, a rare case of small round cell carcinoma or lymphosarcoma of the stomach is radiosensitive, but even in such instances it would be best to operate and then use irradiation. The ordinary variety of cancer of the stomach can be successfully treated only by surgical excision.

The points to discuss, then, are those common to other malignant diseases, an early diagnosis, because it is well known that in cancer elsewhere an early diagnosis and prompt treatment are the best methods to effect a cure. There are, of course, occasional instances in which even early cancer of the stomach is so malignant that prompt operation does not cure, but again these are exceptional cases and we must go by the rule of what usually happens if we wish to improve the results.

PEPTIC ULCER AND CANCER

There has been much discussion as to the causal relationship between peptic ulcer of the stomach and gastric cancer. Ulcer of the duodenum rarely results in malignancy, so rarely that it can be almost disregarded, but peptic ulcer of the stomach not infrequently leads to cancer. Whether the lesion, even in the early stage, is primarily a malignant ulcer or whether it is a benign ulcer that is turning into cancer is more or less an academic question. The clinical importance is that the lesion should be recognized as malignant and extirpated as soon as possible.

Rivers and Dry, of the Medical Department of the Mayo Clinic (Rivers, A. B., and Dry, T. J.: Differentiation of Benign and Malignant Gastric Ulcers. *Arch. Surg.*, 30:702, 1935) say: "It seems to us that unless contraindications are present it is usually safer to treat gastric ulcers surgically." A noted medical gastroenterologist, Dr. William Gerry Morgan (Morgan, W. G.: The End Results of Treatment for

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*Read before the Northeast Mississippi Thirteen Counties Medical Society. Amory. Mississippi. September 8, 1942.

Peptic Ulcer. *Sou. M. J.*, 25:256, 1932) believes that all cases of gastric peptic ulcer are surgical cases for immediate operation. This doubtless is the safest attitude in the long run, but if the ulcer is small it would seem justifiable to give medical treatment for a few weeks.

Friedell (Friedell, M. T.: Prolonged History of Carcinoma of the Stomach in Persons in the Third Decade of Life. *Proc. of Staff Meetings of Mayo Clinic*, 14:529-535, Aug. 23, 1939) quotes instances of prolonged history of carcinoma of the stomach in the third decade of life and gives a report of fourteen patients who had cancer in the third decade of life. Of these the average duration of symptoms was 3.3 years. In eight of these cases there were symptoms of an ulcer type, in three there were nausea and retention vomiting, and in three others there was a non-specific type. Comfort, of the Medical Department of the Mayo Clinic, in discussing these cases, states: "Favorable cases (of peptic ulcer of the stomach) may be selected for medical treatment but in all fairness to the patient surgical exploration constitutes the treatment of choice whenever the lesion does not heal promptly and doubt persists regarding the nature of a lesion. In many instances the pathologist must be the final judge of the nature of the lesion."

Relief of Symptoms

One of the most fatal impressions concerning cancer of the stomach is that if medical treatment is given and the patient is relieved of his symptoms, it is, therefore, a therapeutic test that the disease is not malignant, just as giving quinine for an indefinite fever is supposed to be a therapeutic test for malaria. *As a matter of fact, most early cases of cancer of the stomach are relieved of the symptoms for a while by medical treatment as given for peptic ulcer.* The fallacy of the belief that diet is a therapeutic test for gastric cancer has been the cause of many deaths and prolongation of the advance of the disease that otherwise would not occur.

Friendship

One unfortunate obstacle to the early diagnosis and treatment of cancer of the stomach is friendship. So many individuals with a great dread of cancer of the stomach appeal to the sympathies of friends and physicians for a different diagnosis or a delayed diagnosis that the treatment often follows the well-known lines of military failure—"too little and too late." Thus, Thomas Scholz, of New York (Scholz, Thomas: Curriculum Vitae of Two Gastric Cancers. *Am. Jour. of Cancer*, 18:834-851, August, 1933) reports two cases which he diagnosed roentgenologically as cancer of the stomach, one 2½ years and other 3½ years before they came to an operation. At operation the lesion was too extensive for resection, but the patients were apparently in good health when the diagnosis was first made. Because of the apparent good health and well-being it was difficult for the patient and the attending physician to accept the diagnosis at a time when the lesion was operable. Dr. Scholz says: "The practitioner must, therefore, realize that x-ray examination furnishes him a means of obtaining a diagnosis in practically every instance at a sufficiently early stage to make recovery possible by a timely operation. But to save the patient's life he must order the x-ray examination *early* and not late in the disease. It is still a common experience; in fact, it seems to be the rule that patients are treated for digestive disturbances for months and even years without previous roentgen examinations, and that the latter are ordered only after clinical evidence of gastric malignancy has appeared, just for confirmation. Not infrequently great pride is felt in such a confirmation. It apparently is not yet fully grasped that such an attitude is nothing to be proud of. On the contrary, it should be recognized that such a delay in the use of roentgenology is the worst service the physician can possibly render his patient, because thereby he robs him of the only chance of recovery, as a late x-ray examination is quite as useless as a late clinical diagnosis."

Symptoms and Diagnosis

First of all, we must dismiss the ancient textbook description of cancer of the stomach with frequent vomiting, palpable mass in the abdomen, sallowness of the skin, and enlarged lymph nodes in the neck. Such cases are usually hopeless. It would be as reasonable to put off the diagnosis of a ruptured appendix until general peritonitis is obvious as to delay the diagnosis of gastric cancer to such a stage. To be sure, there are a few instances in which cancer of the stomach as a palpable mass in the abdomen can be removed successfully, possibly with a slight hope of cure. These are the types of bulky cancer often with degenerative or colloid changes.

The symptoms of gastric cancer are not always continuous. They may be remittent or intermittent just as in peptic ulcer. Among other fallacies, according to Gaither (Gaither, E. H.: Gastric Carcinoma: A Clinical Research. Preoperative Course and Postoperative Results. *Sou. Med. Jour.*, 28:107, 1935), are the following: "(a) Local gastric symptoms, loss of appetite, cardialgia, eructation, pyrosis, nausea, vomiting, pain, distention, and variable types of discomfort are no worse in beginning carcinoma than in other gastric disease. (b) A latent stage is possible during which time the process advances very slowly, with an utter absence of symptoms. (c) A general marasmus, or a variable anemia, may occur, with the gastric symptoms so wholly in abeyance as to be quite unrecognizable. (d) A beginning carcinoma may progress without definite symptoms; again, it is marked by ulcer symptoms, or symptoms of chronic gastric catarrh."

Cancer of the stomach is more common in men than in women, though in my experience the incidence of cancer of the stomach in women is not so infrequent as it appears to be in other clinics. The majority of cases of cancer of the stomach occur near the pyloric end; consequently, the symptoms of obstruction prevail. This is very fortunate, because it will produce symptoms at an earlier stage than with cancer in other portions of the stomach without obstruction. This obstruction may cause water brash, heartburn, discomfort, and sometimes nausea and vomiting before the lesion is far advanced. Pain is not often present, but may be cramp-like, sharp, or boring. It is usually in the upper epigastric region. When intermittent pain relieved by food becomes continuous, it is supposed to be significant of a benign lesion turning into cancer, but this symptom may be found in a benign ulcer that has slowly perforated posteriorly.

There is a marked difference in symptoms in different patients caused by the same lesion. Libman (Libman, E.: Observations on Individual Sensitiveness to Pain. *J. A. M. A.*, 102: 335, 1934) has called attention to this. Thus, in the hyposensitive, either no symptoms may result from a gastric lesion that would cause marked indigestion in the hypersensitive, or there may be substituted symptoms referred, for example, to the chest. In the early stages of gastric carcinoma, the appetite may be quite variable, and the patient may actually gain weight. Nausea and vomiting are common, although often there is no vomiting until later in the disease unless obstruction exists. Lesions along the greater curvature particularly may be unaccompanied by vomiting throughout the course of the disease. The vomiting of blood is infrequent in cancer of the stomach. Probably not more than 5 per cent of cases of gastric cancer actually vomit blood in any considerable amount, whereas in 20 per cent of peptic ulcers there is distinct hematemesis or melena. Occasionally, however, vomiting of a small amount of coffee-ground-like material occurs, but even this is not as common in gastric cancer as it is supposed to be. A much more common sign is occult blood in the stool, which can be determined by the guaiac or benzidine test after a 3-day meat-free diet, or the string test of Einhorn may show blood. (Horsley, J. Shelton: Cancer of the Stomach. *Southwestern Medicine*, 256-259, August, 1940).

Only about 50 per cent of gastric cancers have decided ulceration. Tarry stools are rather infrequent, but occult blood may be found in many cases in which neither hematemesis nor tarry stools are obvious. Loss of weight is common, but it should not be too much emphasized, since it is usually a late symptom. Anemia is often present, although this, too, may be a late symptom. However, it may arise from a large fungating cancer of a colloid type and low grade of malignancy or from a malignant polyp, and does not necessarily indicate that the disease is inoperable.

THE GASTRIC CONTENTS

Examination of the gastric contents may be suggestive, but it must not be too greatly valued. Most cancers of the stomach, particularly if well advanced, show achlorhydria, or at least a diminished amount of hydrochloric acid in the gastric juice, and this finding along with clinical symptoms suggesting gastric cancer must be given full weight. There are, however, two conditions that must be considered in this connection. The first is that achlorhydria is more common than it was formerly supposed to be, and seems to increase with advancing years. It is difficult to imagine that millions of cells in the stomach whose chief function is to secrete acid can remain entirely functionless indefinitely without some histologic lesion, though in many cases of achlorhydria in patients who die of something else, microscopic examination shows but little if any alteration of the gastric structure. Achlorhydria may be a sequence of a low-grade chronic gastritis, which in itself from irritation may favor cancer. Indeed, Hurst believes that gastritis is the precursor of cancer in about 75 per cent of cases (from Comfort, M. W., and Butsch, W. L.: *Proc. Staff Meetings, Mayo Clinic,* 13: 151-154, March 9, 1938).

The second condition is that occasionally gastric cancer is found when the hydrochloric acid in the gastric juice is normal.

THE GASTROSCOPE

The gastroscope has come into more favor in recent years, since Schindler's gastroscope has been in use. It is undoubtedly helpful in certain cases, particularly in detecting lesions in the cardiac portion of the stomach where there is difficulty in locating them with x-ray. However, it should not be too greatly depended upon. The mere presence of a small ulcer in the stomach seen through the gastroscope does not necessarily indicate whether it is benign or malignant. Not infrequently the nature of such a lesion cannot be definitely determined until microscopic examination has been made.

ROENTGENOLOGIC EXAMINATION

The most important method of making a diagnosis of malignant lesions of the stomach is by x-rays. Such an examination, however, should be made by one who is skilled in roentgenologic diagnosis of the gastro-intestinal tract. A half-baked roentgenologic diagnosis of lesions of the stomach or colon is worse than none at all. The method of diagnosis by x-ray has reached a high state of efficiency, but it must be recalled that when a filling defect of cancer is observed in the stomach, the lesion is already advanced. Even a punch-like defect supposedly characteristic of a benign ulcer of the stomach has been found occasionally to be caused by cancer. The defect from a cancerous ulcer may appear partly to fill up on subsequent x-ray examination. Then, too, it is possible to have both a benign duodenal ulcer and a cancerous gastric ulcer existing in the same patient. The late Dr. Carmen, chief roentgenologist at the Mayo Clinic, developed an x-ray sign, called "meniscus," which is almost pathognomonic of gastric cancer when properly interpreted. It consists of a defect in the stomach that goes no deeper than the mucosa, but when pressed upon with the stomach partly filled with barium it produces a lens-like appearance of the barium in the base of the defect. This is due to the fact that most cancerous ulcers have an everted and prominent margin, and when pressure is made upon them they tend to close and so shut off the barium in the depths of the ulcerated area. Deeply penetrating lesions are usually benign. The observations of the pattern of the mucosa and the sequence of peristalsis over the lesion is important in picking up an early cancer of the stomach.

It has already been emphasized that peptic ulcer of the stomach is an object of suspicion. The size of the lesion has much to do with the diagnosis. Alvarez and MacCarty find that there is one chance in fifteen that any ulcer in the stomach smaller than a dime (1.5 cm. in diameter) and one chance in ten that an ulcer smaller than a quarter (about 2.5 cm. in diameter) is early cancer. If it is larger than a quarter but smaller than a half dollar, the chances in favor of ulcer or cancer are about equal. If it is larger than a half dollar but smaller than a silver dollar, it is almost certainly cancer. (Comfort, W. M.: Discussion of "Prolonged History of Carcinoma of the Stomach in Persons in the Third Decade of Life" by M. T. Friedell. *Proc. of Staff Meetings of Mayo Clinic,* 14:529-535, Aug. 23, 1939).

SUMMARY OF DIAGNOSIS

In order to make an early diagnosis of cancer of the stomach we should be to some extent cancer-minded. We more frequently find what we are actually looking for. Any patient over 30 years of age, and particularly a man who has gastric symptoms, should be treated by a general practitioner for a few weeks, and if the cause of these symptoms can be ascertained and corrected, nothing further need be done. But if the cause of the symptoms cannot be ascertained and corrected, the patient should be given a thorough roentgenologic study. The earlier the diagnosis is made, usually the more difficult it is. If, then, as we can adopt this policy of an early thorough examination as has been outlined, the great majority of these patients will prove to have either a nervous condition or some extra-gastric cause for their symptoms which can be relieved, but every now and then a case of gastric cancer will be picked up that would otherwise be missed. I have seen patients with inoperable cancer of the stomach who have been treated for "nervous indigestion" for many months or years. It is true that there is a small proportion of cases in which the malignancy develops along the "silent" area of the greater curvature or cardiac end, and nothing can be done because there are no symptoms until the disease is too far advanced for treatment, but it is equally true that the great majority of cases of gastric cancer are located either in the pyloric end of the stomach or in the main body of the stomach, readily susceptible to partial gastrectomy.

TREATMENT

As has been mentioned, the only satisfactory treatment for cancer of the stomach is surgical excision. This should always be some form of partial gastrectomy. Merely removing the local lesion is not enough. The fact that this treatment has not been adequately applied is well brought out in a series of necropsies by Dr. Margaret Warwick (Warwick, Margaret: Analysis of One Hundred and Seventy-Six Cases of Carcinoma of the Stomach Submitted to Autopsy. *Ann. Surg.*, 38:216, August, 1928). She has called attention to the fact that in 23 per cent of the necropsies of 176 gastric cancers the cancer was still limited to the stomach, whereas in the total deaths in a larger series of necropsies of gastric cancers of Saltzstein and Sandweiss (Saltzstein, Harry C., and Sandweiss, David J.: The Problem of Cancer of the Stomach, *Arch. Surg.*, pp. 113-127, July, 1930) only 7.7. per cent had undergone a partial gastrectomy. This shows undoubtedly that many cases of cancer are permitted to go to their death that might have been given some chance by a gastrectomy done by one skilled and trained in this work. One of the chief causes of deaths in cancer of the stomach, according to Dr. Warwick, is perforation of the stomach. It has usually been assumed that perforation of the stomach is due to peptic ulcer, but in Dr. Warwick's series of 176 cases there was open ulceration in only about 45 cases, and in about half of these death was due to perforation and peritonitis.

Naturally, preventive treatment has a definite place. Aside from the tendency of some gastric ulcers to become cancerous, or, as has been said, what amounts to the same thing as far as practice is concerned, having a very early cancerous lesion simulate peptic ulcer, a so-called benign polyp in the stomach is very likely to be a pre-cancerous lesion. McRoberts (McRoberts, J. W.: Gastric Polyps. *Proc. of Staff Meetings of Mayo Clinic*, 8:685, 1933) has reported five cases of gastric polyp removed at operation in which histologic examination showed that four contained definite cancerous tissue. One case in which three apparently benign polyps were removed by excision with the cautery was reported, and the patient came back 6½ years later with gastric cancer that was inoperable.

Finesilver (Finesilver, Edward M.: Benign Tumors of the Stomach, *Surgery*, Vol. 12, No. 2, 216-235, August, 1942) records nine cases of apparently benign tumors of the stomach in which three had become malignant at the time of operation. Eliason and Wright examined twenty-three cases of polyps of the stomach and found carcinomatous changes in eight. Benedict and Allen reported seventeen cases of gastric polyp from the records of the Massachusetts General Hospital and found seven in this group, or 41.2%, showed evidence of malignancy. The presence of a so-called benign polyp in the stomach, then, is a very strong indication for its removal. This can very often be done through a gastrotomy opening without necessarily doing a partial gastrectomy. Such a removal, however, should be followed preferably by some form of pyloroplasty or a gastro-enterostomy in order to relieve the pressure in the stomach during healing.

The patient should be well prepared before any operation is undertaken. Intravenous dextrose in Ringer's solution or hypoclysis, and concentrated food with high vitamins, should be given for several days. There should also be gastric lavages to have the stomach cleared out. Dilute hydrochloric acid should be given and the stomach washed out with ½ or ¼ of 1 per cent of dilute hydrochloric acid. This is an excellent physiologic antiseptic. It may be necessary to give a transfusion of blood before operation, but always a transfusion should follow operation.

For gastric cancer some form of gastrectomy is indicated. If the lesion is near the pylorus, it can frequently be removed by a type of Billroth I operation in which the stump of the stomach is united to the stump of the duodenum. I have been using a modification of the Billroth I for about 17 years. However, when the cancer is in the body of the stomach and a more extensive operation is indicated, a form of Billroth II should be utilized. In this type the stump of the stomach is united to the jejunum. All gastrectomies, except total gastrectomies, are classified either as a modification of Billroth I when the stump of the stomach is united to the stump of the duodenum, or a modification of Billroth II in which the stump of the stomach is united to the jejunum. This modification of Billroth I permits more nearly a physiologic reconstruction.

The stomach contents normally empty into the duodenum. The susceptibility to the irritation from the stomach contents increases from the duodenum down to and including the colon. The reason why peptic ulcers are so frequently found in the duodenum is because it receives the impact of the concentrated gastric juice. If the mucosa of the duodenum were as susceptible to the gastric contents as the middle or lower jejunum or ileum, we probably would all have peptic ulcers.

That the Billroth II type of operation is not without danger, even after cancer, has been shown in a report by Fordyce St. John, of New York (St. John, F. B., Whipple, A. O., and Raiford, T. S.: Treatment of Carcinoma of the Stomach; Summary of Results, *Am. J. Surg.*, 3:246; Feb., 1926), of a case in which cancer of the pyloric end of the stomach was removed by a Billroth II type of operation and the patient a few weeks later died of a perforating ulcer of the jejunum. If a Billroth II type is to be utilized, the Hofmeister modification appears to me to be more satisfactory than other modifications. It requires less loop and avoids unnecessary kinking.

Gastro-enterostomy has but little, if any, place in the therapy of gastric cancer. Even when a large fungating mass occupies the pyloric end of the stomach, the modification of Billroth I method, as described, conveys but little more danger and makes the patient more comfortable than a gastro-enterostomy with the sloughing mass left behind.

POSTOPERATIVE CARE

An important feature of the postoperative care is keeping the stomach empty. The use of a Levine or Jutte tube through the nostril is not only uncomfortable, but is by no means free from danger. Iglauer and Molt (Iglauer, S., and Molt, W. F.: Severe Injury to the Larynx Resulting from the Indwelling Duodenal Tube. *Ann. Otol., Rhinol. and Laryngol.*, 48:886, 1939) reported severe injury to the larynx from indwelling duodenal tubes, with ten cases occurring over a two-year period and eight of these developing laryngeal stenosis that required tracheotomy. Two of the patients died. In order to prevent this complication, we use what we call a simple tube gastrostomy. This can be utilized not only after any partial gastrectomy but after gastro-enterostomy or pyloroplasty. After the posterior row of sutures, uniting the stomach to the duodenum or to the jejunum, has been placed, a sharp-pointed hemostat is thrust through the stomach from within outward at a point on its anterior wall near the greater curvature about 3 inches from the stump of the stomach. A soft rubber catheter with additional perforations is drawn through until about 3 or 4 inches of it protrudes into the stomach. It is fastened to the wall of the stomach by a fine suture of chromic catgut. A purse suture of the same material is placed around it. When the union of the stomach and bowel is completed, the butt end of the catheter is drawn through a stab wound to the left of the abdominal wound at a point where the stomach easily approximates the parietal peritoneum. The stomach is fastened to the parietal peritoneum with four sutures of fine chromic catgut and a tag of omentum is drawn around for additional security.

CONCLUSION

Trivial symptoms of indigestion in those over 30 years of age, especially in men, should be considered seriously and not casually, and the cause of these symptoms should be definitely ascertained. The mortality rate from cancer of the stomach is amazing. Comparatively few patients with cancer of the stomach are given a chance for recovery in the reasonably early stages. The only treatment for cancer of the stomach is some type of gastrectomy. An operative technic should be employed which will radically remove the lesion and at the same time restore the gastro-intestinal tract as nearly as possible to its normal.

Histaminic Cephalgia*

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IN PRESENTING the subject histaminic cephalgia for your consideration you will observe that no new symptoms or signs have been discovered, but that a group of familiar symptoms will be described as composing a new syndrome which in recent years has been discovered and named "histaminic cephalgia" by Drs. Horton, MacLean, and Craig. When these men began their work in 1937 at the Mayo Clinic they called the group of symptoms "erythromelalgia of the head" because the syndrome appeared to be the manifestation of a vascular headache. Much credit is due these men for their work and through their discovery many patients who suffered from this most unbearable headache or head pain for years will cease to think of suicide and will obtain complete relief from the attacks.

The syndrome appears to be vascular in origin resulting from the local action of histamine on the external carotid artery and its branches, producing a vasodilatation. Further experimental study will no doubt give us more definite information concerning the exact manner of production of this vascular headache. It is observed that in attacks occurring either naturally or in those induced by the injection of histamine the surface temperature on the affected side is usually higher than that on the opposite side. Inspection of the two sides of the head will most frequently reveal congestion of the temporal artery on the involved side and the patient experiences throbbing in the temporal region and frequently states that he feels as though his head will burst on that side.

The failure of all surgical and medical procedures to relieve this definite syndrome, and the apparent complete relief of all symptoms by desensitization with histamine should invite the interest of all those in the profession who are interested in the relief of vascular headaches of this type.

In this brief discussion you will be given a case history of a patient now under my care, who presents a most typical clinical picture of the disease. You will then be shown a few slides exhibiting the usual clinical picture, an anatomical sketch of the external carotid artery, a suggested treatment outline, and finally a group of sldies, through the courtesy of Dr. Horton, from photographs of a few of his patients during their attacks.

CASE HISTORY

This woman, age 35, had been suffering from periodic attacks of violent headaches of a unilateral type since youth. The attacks were described as coming on suddenly, usually at night, but not infrequently during the day, and characterized by severe and constant pain, beginning in the left temporal region, involving the left temporal region and radiating downward into the neck. The left upper teeth would become very painful and sore. Profuse watering, and congestion of the left eye was always noticeable, and congestion of the left temporal artery was mentioned in the description of her symptoms. Pressure on this artery early in the attack appeared to give slight, but only temporary relief. No nausea or any other symptoms which might be referable to the gastro-intestinal tract were ever noticed. During every attack the left nostril congested, discharged freely, and in most instances failed to allow free passage of air.

Blowing the nose would frequently cause the discharge of blood-tinged mucus plugs. The scalp on the involved side would be tender on pressure during and following the attacks for many hours. The occurrence of the headaches had no relation to her menstrual cycle although she did not have any attacks during any pregnancy. Seasons apparently had little or no effects, but she did state that she had only one short series of headaches during one summer. The most severe attacks usually came during the fall and winter, but she had some rather long and severe attacks during the early spring months. One outstanding feature of all series of attacks was that they usually came about the same hour of the day or night, and when they did come at night would very suddenly awake her from a sound sleep striking as quickly as lightning, with apparently no warning or prodromal symptoms. She would sit erect in bed holding her head in her hands. She said that she felt better in this position as the pain would become more intense when she placed her head on a pillow. The throbbing in the temporal region was not so noticeable when the head was held upright.

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*Read before the Section on Medicine at the Mississippi State Medical Association. Jackson, Miss., May 13, 1942.

Various dietary restrictions had been tried from time to time, but none appeared to afford any relief. At one time, July 1939, she had an attack of hives, but this occurred between series of headaches, and was promptly relieved by the elimination of certain foods to which she was found to be hypersensitive by skin testing. She has had no further attacks of hives.

When the headaches first began they came every few days, each attack lasting from less than one hour to over one hour.

The series of attacks then lasted less than one month, and rarely did she have over one series a year. As the years passed the attacks gradually became more severe and lasted longer. In 1940 she had one series in the spring, lasting six weeks, during which time the headaches came almost daily. In the fall of 1940 a series of attacks began and lasted until late January 1941, when treatment with histamine was begun, and after three days' trial, she was completely relieved. The treatment has been continued to the present time, and she has had no evidence of a return of symptoms. The method of treatment followed the schedule suggested by Horton.

During the year that she was suffering she was given various drugs, had numerous examinations and treatments of her sinuses, had many teeth extracted because of the soreness in the jaw, none of which afforded any relief of her symptoms.

Before making a diagnosis of "histaminic cephalgia" a test dose of .5 of a milligram of histamine was given subcutaneously in an attempt to reproduce the classical symptoms. Although this injection failed to reproduce the symptoms as expected, the treatment with histamine was begun and complete relief was obtained as previously mentioned. This result, together with the classical clinical picture, fully justified the diagnosis.

Histaminic Cephalgia
Suggested Treatment Outlined
Histamine Diphosphate
1cc Ampoule 0.275 Mg.
Subcutaneous Injections

Dose No.	Amount	Time
1	.25cc	First Day
2	.25cc	First Day
3	.30cc	Second Day
4	.35cc	Second Day
5	.40cc	Third Day
6	.45cc	Third Day
7	.50cc	Fourth day
8	.55cc	Fourth Day
9	.60cc	Fifth Day
10	.65cc	Fifth Day
11	.70cc	Sixth Day
12	.75cc	Sixth Day
13	.80cc	Seventh Day
14	.85cc	Seventh Day
15	.90cc	Eighth Day
16	.95cc	Eighth Day
17	1.00cc	Ninth Day
18	1.00cc	Tenth Day
19	1.00cc	Eleventh Day
20	1.00cc	Twelfth Day
21	1.00cc	Fifteenth Day
22	1.00cc	Eighteenth Day
23	1.00cc	Twenty-first Day
24	1.00cc	Twenty-fifth Day
25	1.00cc	Thirtieth Day
26	1.00cc	Thirty-seventh Day

From the case history presented you will find almost every typical symptom included in the clinical picture of histaminic cephalgia. The long duration of the symptoms has been an outstanding feature in the past, and it is the hope of the author that with the discovery of the syndrome together with its cure this feature of the disease will be removed.

The character of the pain is quite typical, the severity of which usually brings the patient to the doctor. The pain or headache is unilateral, of great intensity, comes on suddenly, usually a few hours after retiring, and at the same or almost the same hour, night after night, or day after day, skipping a day frequently, lasting from a few minutes to a few hours, and disappearing as suddenly as it came. The pain appears to follow the course of the external carotid artery which becomes congested causing noticeable pulsation, and increased surface temperature on the affected side. The eye, face, neck and temporal regions are all involved. Intense and constant pain in the eye on the affected side accompanied by profuse lacrimation is always present. Congestion of the eye and nose, with nasal discharge is observed.

The occurrence of the attacks apparently has no connection with the habits of occupation of the sufferers. Changes in diet and climate likewise have shown no apparent improvement. Observation of female patients has failed to connect the attacks of headaches with the menstrual cycle. The usual gastro-intestinal symptoms that accompany headaches of the migraine type are absent in histaminic cephalgia.

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DISCUSSION

DR. L. D. ABERNETHY (Holly Springs, Miss)—The new syndrome described by Horton McLean and Craig is one of several painful diseases in which a vascular mechanism is the basis of the pain.

Erythromelalgia is a rare and interesting disease of the extremities characterized by redness and pain in one or both feet or occasionally by the hands. The pain is burning in character and is induced by exercising or warming the extremity. The essential abnormality in these cases has been shown to be not vasodilatation alone but rather a hypersensitive state of the nerve endings since a comparable amount of vasodilatation induced in normal individuals does not produce pain; neither does the same amount of induced vasodilatation at other locations on the affected person produce pain.

Erythromelalgia of the head, or as Dr. Rouse has termed it, histaminic cephalgia, exhibits all of the phenomena seen in an extremity and in addition others possible where mucous membranes and glands are present.

Pressure and stretching of sensitive nerve endings of blood vessels or skin or both are no doubt responsible for the pain. Extracranial vessels alone could be the site of the painful stimuli. One wonders what substance is found in these individuals not found in the normal person or if no such substance exists what produces local sensitivity to a substance found in the normal person. The ability to induce attacks at will with histamine suggests that it or some closely related chemical compound is responsible.

Histamine administered by mouth has little effect as it is quickly destroyed. Doses as large as 250 mgs. are easily tolerated. However, by subcutaneous or intravenous injection minute quantities produce prompt vasodilatation. That it may be responsible for histaminic cephalgia is suggested not only by our ability to induce typical attacks with it but by the fact that antagonistic drugs such as epinephrine control spontaneous and induced attacks and by the favorable results obtained by desensitizing and susceptible individuals as described by Dr. Rouse.

From a consideration of the pharmacology of histamine it is obvious that epinephrine and not morphine is the drug of choice in controlling pain and until such time as we learn more of the pathological physiology of histaminic cephalgia we shall have to be content with desensitizing to prevent recurrences of histaminic cephalgia.

DR. D. W. HAMRICK (Corinth)—I have read Dr. Rouse's paper with a great deal of interest. I want to congratulate him for his splendid presentation of a clinical entity which falls out of the regular day's routine in eye, ear, nose and throat practice. There are very few specifics in medicine, but the therapy presented in this paper very nearly fulfills the definition for a specific.

I might add several case histories to those of Dr. Rouse's in which provocative tests and therapeutic results were similar to those which he reports, but they would add little to this discussion. I would like to reiterate and reëmphasize a few salient points. First the source of histamine, the offending agent, according to best authority is the reaction between antigen and antibody, causing cellular injury and this cellular injury is the source of the histamine. Hence reaction of the body defenses to any specific antigen produces cellular injury and thus liberates histamine in varying amounts. This is also true in allergic response to antigenic substances. Many allergic individuals give a positive histamine skin reaction if the test is made when the patient is having clinical symptoms, while but few in the allergic group have a typical histaminic cephalgia.

I would like to ask Dr. Rouse what his experience and results have been in this group in the use of histaminase enzyme to neutralize the histamine, instead of desensitizing with histamine diphosphate?

DR. H. K. ROUSE (Gulfport)—Headache is said to be the most common symptoms for which the patient consults a physician. In the fields of ophthalmology and rhinology the eyes and paranasal sinuses are searched for the cause of headaches in many patients.

In the classification of headaches the vasomotor type of which migraine is the classical example which should head the list. Recently another headache syndrome of the vasomotor type has been established as a definite clinical entity. Horton, MacLean and Craig of the Mayo Clinic have given the most detailed study to this type of headache and through their efforts have been able to desensitize these victims and give relief in a large series of cases.

The characteristics of this syndrome which has been called erythromelalgia, histaminic cephalgia or histamine sensitivity headaches are clear cut. The pain is unilateral, a constant excruciating burning, boring type of pain involving the eye, temple, neck and often the face. It has none of the tic-like qualities of trigeminal neuralgia; there are no trigger zones. Pressure over branches of the external and common carotid arteries frequently reveal marked tenderness.

The pain might appear or disappear suddenly, last a few minutes to a few hours and even occur at the same hour of day or night for weeks.

Vasodilatation of the same side of the head as the pain invariably is coincident with the onset of the pain. There results swelling of the temporal vessels, engorgement of the soft tissues of the eye, injection of the conjunctiva, plugging of the nose, profuse watering of the eye and nose, and flushing of the side of the face. All of these phenomena are not present in every case.

Partial relief or abortion of an attack of pain is obtained in a number of patients by the use of salicylates. Abstinence from alcohol, the use of which produces exacerbations, offers some relief.

The fact that the attacks of pain are associated with the phenomenon of vasodilatation suggested experimenting with histamine. Subcutaneous doses of .3 to.5 mgm. produced the typical syndrome of headaches. Intravenous use of vasoconstricting substances controlled the attacks. Patients were unable to differentiate between induced and spontaneous attacks and immediately after a severe spontaneous attack 1 mgm. of histamine administered subcutaneously failed to produce a flushing of the face.

The patients were then desensitized to histamine by giving subcutaneously .05 mgm. of histamine twice each day for two consecutive days, increasing the dose to .066 mgm. twice daily on the third day and to 0.1 mgm. twice daily for two to three weeks. Definite relief was obtained in over three-fourths of the patients. Several who had recurrences were relieved by another course of histamine.

A detailed case report will reëmphasize the characteristic of this syndrome. This patient was given the probable diagnosis of histaminic cephalgia by Dr. W. W. Lake of Pass Christian, Mississippi, and the detailed history was recorded by him. I had previously failed to find any cause for headache after an examination of his eyes and paranasal sinuses.

COMPLAINT: "I have been having an unbearable pain over my right forehead and temple for the past three weeks."

PRESENT ILLNESS: The patient states that aside from his present complaint, he has enjoyed good health for as long as he can remember. In 1936, he occasionally developed pain in the right forehead and right temple. The pain was slight, occurred about once a week, and rarely lasted longer than an hour. He saw an occulist who said he needed glasses and fitted him with a pair. After wearing them for two months, he ceased having these bouts of pain and was free of such attacks for a year. They returned occasionally in 1937 and in 1938. They were no more severe nor were they of longer duration during these years. He noticed that these attacks tended to occur frequently for a time and then there would be a considerable intermission before the next series of attacks. In 1939, he awakened one night with an attack, which was very severe and which persisted for three hours. In fact, it was not relieved until his wife had called a physician, who administered a hypodermic of morphine. This same physician saw him in four subsequent attacks, all of which required hypos of morphine for relief. The patient states that these latter attacks would persist five or six hours before he would call a physician. His doctor came to the conclusion that these attacks were due to a ragweed hayfever, as they usually began early in September and the patient ceased having them after the first frost. In 1940, his physician gave him ragweed pollen desensitization injections and he had no serious trouble during the fall of that year. However, in 1941, his attacks of right frontal and right temple pain began to occur in May. This deviation from form worried him considerably. He noticed that they seemed to occur on the same nights that he partook of alcoholic beverages, even though moderately, so he gave up alcohol and obtained temporary relief. Occasionally, he would take a drink to see if he could precipitate an attack and would nearly always do so. On June 19 and June 22, 1941, he had very severe attacks, without having had any alcohol previously. The attacks were getting more severe. The attack of June 19 was so severe that he left his home and went to the hospital in Hattiesburg, Mississippi, to seek relief. This attack required two hypos of morphine before relief was secured. An attack on June 16 and that one June 19, were accompanied by nausea and vomiting of a nonprojectile character. He did not become nauseated or vomit until after the morphine injections. He states that his right eye runs water and becomes bloodshot during an attack. During one of these spells, the right side of his nose also becomes blocked and a watery discharge streams from the right nostril. He further states that both he and his wife have noticed that the right side of his face becomes a dusky red and that the veins over his right temple become very prominent during an attack. The attacks occur with great suddeness, usually between the hours of 10 P. M. and 1 A. M. If he is asleep, they awaken him. He states that he usually gets up out of bed and holds the right side of his head with his hands, paces the floor, occasionally sitting in a chair and rocking back and forth. The pain is continuous, severe, and extends from his right frontal area, across the right temple, to the region of the right ear. They now last six or seven hours, unless he receives a hypodermic of morphine, otherwise they gradually wear off. He states that no medicine, other than morphine, has given him relief and that the attacks are coming so frequently now that he fears morphine addiction. On June 22, 1941, he had his first daytime attack. He states that it began about 7 A. M., with a stuffiness in his right nostril and a blinking of his right eye. In a short time, he developed a dull aching sensation along the right supraorbital ridge. This pain gradually became more intense, slowly extending back over the right temple area to and involving the right ear. As the pain increased in intensity, the stuffiness in his nose increased and the profuse watery discharge occurred. Simultaneously, his right eye ran tears, the right side of his face became suffused, hot, and the veins of his right temple became prominent. There was also a tendency to contraction of the muscles of the right side of the face. This attack persisted five hours and then began to wear off. As the pain decreased, the blood vessels in the right temple became smaller, his face less suffused, less hot, and more relaxed. The last thing to clear up was the stuffiness of his nose and tears and blinking of his right eye. There was no nausea or vomiting. The patient states that these attacks are becoming so severe that it is almost impossible for him to do his work and that he can readily see why some people commit suicide.

There is no history of allergy in the patient or his family. There is no history of sinusitis, diplopia, blurred or failing vision, vertigo, tinnitus, epistaxis, dysarthria, dysphagia, disturbances of smell, taste or changes in personality or memory defects.

PAST HISTORY: The patient states that prior to the onset of his present illness, in 1936, he had enjoyed unusually good health. As a child, he had measles, pertussis, and mumps, all without complications. He had food poisoning while in college. The only immunization procedure he has had was vaccination for smallpox. He denies ever having chickenpox, diphtheria, scarlet fever, rheumatic fever, typhoid fever, typhus, malaria, dysentery, influenza, pneumonia, pleurisy, intestinal parasites, dengue, fractures, or any operations.

HEAD: There is no history of headache prior to the onset of his present illness. There is no past history of vertigo, faintness, convulsions, syncope, loss of memory disturbances, in speech, or changes in disposition.

EARS: His hearing has been normal and there is no history of tinnitus, otalgia, or otorrhea.

EYES: Vision has been normal and there is no history of defects or color vision. There is no history of diplopia, ocular inflammation, or pain.

NOSE: Aside from occasional mild head colds, there is no past history of sinusitis, anterior or posterior nasal discharge, epistaxis, ulcer, obstruction, hayfever, or anosmia.

PROGRESS NOTES: 6-30-41. Dr. Lake and I

met in the patient's room at the hospital at 8 P. M. to see if we could clinch our diagnosis of histaminic cephalgia by precipitating a typical attack of headache with a subcutaneous injection of histamine. The patient was in good spirits and states that he felt fine. He had not the slightest semblance of a headache or any of its premonitory symptoms. At 8:30 P. M., he was given 0.3 mg. of histamine phosphate subcutaneously. Fifteen minutes later, he had no complaint except a sense of fullness in his head. His pulse rate had increased from 76 to 88 and his blood pressure from 115 systolic, 70 diastolic, dropped to 105 systolic, 60 diastolic. There were no further changes in blood pressure or pulse throughout the experiment. Twenty minutes after the injection, the patient's right eye began to blink, but did not water. He also began to sniff as though his right nostril was blocked. He stated that this was the case. There was no nasal discharge at this time. There was also some slight twitching movements of the right cheek. There was still no headache. Twenty-five minutes after the injection, he stated that he believed he was going to get a headache, as he had a slight aching sensation over the right supraorbital ridge. Thirty-five minutes after the injection, the patient remained the same as above, except from some flushing of the right side of his face and increased prominence of the temporal vessels. Forty minutes after the injection, he stated that be believed he was developing a typical headache, as the pain now involved the entire right frontal area and was extending back over the temple. His face was more suffused; the blood vessels were more prominent. His right eye was blinking more frequently, and was filled with tears. He was also sniffing more frequently with his right nostril, and complained of the increased stuffiness in it. Forty-five minutes after the injection he suddenly sat upright in bed, grasped his head on the right side with both hands and rocked back and forth. He said that his head was "killing" him; that it was a typical headache and was getting progressively worse. After a few minutes he was allowed to place his hands in ice water and this gave some relief, but as he continued to have rather severe headache he was given 5 minims of adrenalin subcutaneously and within 15 minutes the pain had disappeared and the congested appearance of his right face and eye was rapidly disappearing. He slept without a sedative the rest of the night.

The diagnosis being made, treatment was given according to the following schedule: The contents of a 1 cc. ampoule of histamine diphosphate is equivalent to 0.1 mgm. of histamine base. Ampoules of this character are on the market as are also ampoules representing 1 mgm. of histamine base to the cc. The weaker dilution was used and all doses given subcutaneously. The quantity given at each injection was as follows: first injection 0.25 cc.; second 0.30 cc.; third 0.35 cc., and so on increasing each dose by 0.05 cc. until 1 cc. was given at each dose. The injections were given twice daily for ten days, then every other day for ten days and then twice a week for a month. He has been seen many times since then and has not had a recurrence to this date.

This dosage was taken from the article by Horton who also states that some patients require a maintenance dose indefinitely. If at any time the patient notices slight flushing of the face or any of the other symptoms he previously had, the dose should be reduced 50%. An attempt is then made to increase the dose again.

We have had one other patient with almost as striking results, the diagnosis being made from the history and a typical attack having been produced with histamine and relieved with adrenalin.

Histamine will produce a typical attack in only those who are sensitive and suffering from histaminic cephalgia. It will produce a mild headache with entirely difficult characteristics in any individual if given in sufficient amounts or given intravenously in smaller amounts.

Histamine is a product formed from catabolism of histidin which in turn is formed from protein metabolism. The effect of histamine is chiefly on smooth muscle, and in the cranial cavity smooth muscle is found only in the blood vessels. It is a vasodilator and when given intravenously produces fall in blood pressure and rise in spinal fluid pressure. These are consequent to its vasodilating action.

Headache does not occur immediately while blood pressure is falling but after a few minutes when arterial pressure has recovered from its fall and has returned to its original level. As arterial pressure is falling, intracranial pressure is rising due to vasodilatation. The increase in spinal fluid pressure prevents stretch mechanism of intracranial arteries, but when intracranial pressure returns to its original level the toneless arteries are allowed to stretch. Pain results. The pain may be quickly relieved by administering a vasoconstrictor drug such as adrenalin or by elevating cerebrospinal fluid pressure by injecting normal saline solution.

Pickering and others have demonstrated very accurately the above phenomena, as well as many other side effects of histamine by elaborate experiments on themselves, on patients and craniotomized monkeys.

It is also now known that most of the brain substance and a considerable portion of the meninges are not the sites of origin of painful sensations. The large vessels particularly the arteries and possibly the dura itself adjoining the vessels, the venous sinuses of the dura and the large arteries of the pia near the base, can be stimulated to produce pain. Distention and traction or stretch of the vascular network is the most common mechanical cause of the symptom headache.

The use of histamine must not be regarded as a cure-all for every type of headache. Each case must be thoroughly investigated by a careful history and examination. Only when all possibility of pathologic lesions has been excluded should a neurovascular mechanism be considered. It is now advocated that an intradermal histamine test should be carried out and if the result is positive the patient should be given graduated doses of histamine injections.

This test is carried out by injecting 1 minim (.075) of the stronger histamine solution intradermally; this is just sufficient to raise a wheal one to two millimeters in diameter. Observe for 15 minutes. A "positive" reaction consists of an increase in the size of the wheal which becomes irregular in outline, and the production of a large erythematous flare around the wheal. A "negative" reaction is one in which the wheal increases slightly in size but does not have the surrounding flare.

To summarize the literature briefly:

1. Histaminic cephalgia has been definitely established as a clinical entity and is due to those individuals having become sensitive to histamine. They are relieved by desensitization and in one series 72 patients with this vascular syndrome have been encountered.
2. It seems to occur about twice as frequently in males as in females and in all ages of adult life from 20 to 76 years of age. It is most frequent in the fourth and fifth decades of life.
3. It is almost always a unilateral pain as previously described, most often known to occur at night, and the patient invariably sits up in bed or stands erect. This tends to relieve the pain. Alcohol brings on an attack.
4. Remissions and exacerbations in many cases happen spontaneously.
5. An attack may be precipitated by the subcutaneous injection of histamine and relieved with adrenalin.
6. Histamine therapy is not effective in treatment of common types of severe headaches.

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DR. L. B. OTKEN (Greenwood)—I want to report a case that was a failure.

Briefly, the case was a woman, 42 years old, who had been having headaches for 20 years, married and the mother of three children living and well. About 1936 I sent her to Baltimore to Dr. Danby. I had come to the end of the row, I did not know what to do. I felt she had a slow-growing tumor of the brain perhaps. Dr. Danby examined her for three days and sent her back. He said he could not make a diagnosis. That winter she went to Memphis and fell into the hands of an eye, ear, nose and throat specialist who did an operation on her, but failed. The next summer I sent her out to Mayo's. Dr. Craig made the diagnosis and sent her back with the suggested treatment that Dr. Little mentioned. I made the same mistake that Dr. Owens mentioned. I gave her the wrong dose and it really knocked her out. Then I corrected and gave her a smaller dose.

I could give her the suggested dose of .275 mgms. per cc. and it would reproduce the attack every time. By the time I got her to the tenth day she felt she was getting a little relief. I went on until I built her up to 1 cc. daily, then 2 cc. per week. Now while she was getting a little relief there was not a cessation. I have given her 3 series and she is still having the headaches. The question comes up in my mind was the diagnosis correct? If it was correct is histamine the answer? In reading one of the journals from the Mayo Clinic, I saw that they have changed their opinion somewhat and think perhaps this is a nicotine acid deficiency.

DR. GEORGE W. OWEN (Jackson): In the past eighteen months I have used histamine desensitization therapy in several types of cases, some of which I admit were primarily for my own satisfaction, to see what the results might be. I have treated six cases of histaminic cephalgia. All of these obtained excellent results, with the possible exception of one case in which I was none too sure of our diagnosis. However, even this one case obtained some help.

In discussing Dr. Little's paper further, it seems to me that we might make the differentiation between histaminic cephalgia and migraine, a little more clear. In migraine there is usually a familial or hereditary history. The onset of the headache usually begins in early childhood. They are a severe paroxysmal type headache, usually presenting some prodromal symptom, indicating the approach of the more severe pain. Nausea, or vomiting, or both is a not infrequent accompaniment.

Comparing the above symptoms of migraine with the classical symptoms that Horton described, you will see that there is considerable difference between the two types of headache, and actually there is not much difficulty in the diagnosis of the histaminic cephalgia, if you are able to obtain good history.

Reporting chiefly on the 72 cases that Horton reported upon, he found that the condition occurred usually in the fourth and fifth decades of life. However, he had patients varying in age from 21 to 76 years.

In Horton's 72 cases 45 were men, 27 women, there being nearly twice as many men as women.

There is no specific etiological agent, so far as our present knowledge goes, but alcohol precipitated a histaminic cephalgia in 28 of Horton's 72 cases. A very few gave history of having had attacks of migraine earlier in life.

There is no familial or hereditary tendency in this condition.

Dr. Little has already adequately explained the excruciating, burning, boring type of pain which these patients experience. The attacks of pain may appear and disappear quickly. They may last from fifteen minutes to several hours. There are spontaneous remissions and exacerbations.

On physical examination marked tenderness is found over the branches of the external, or common carotid artery. Dr. Little has already called your attention to the engorgement of the vessels of the eye, and conjunctiva; the flushing of the side of the face, and the other manifestations of vasodilatation on the side involved. It has also been noted that any posture favoring engorgement of the vessels of the head, or the reclining position made the pain intolerable.

So far as we know the pathological process involved is simply the abnormally dilated blood vessels, produced by histamine or alcohol. Both of these, of course, are vasodilating substances.

By way of treatment immediate relief may be obtained by use of epinephrine, or other vasoconstrictors. Dr. Horton reports the relief of some cases by raising the blood pressure, simply by the immersion of one hand in ice water. Sitting, or an upright posture give some temporary relief. Abstinence from alcohol offers some relief, but no cure. Salicylates only partially alleviate the pain. The real results, therefore, are obtained with the so-called histamine desensitization. This is, small daily doses of histamine, increasing the quantity, as Dr. Little has already shown you upon his chart, over a period of some two or three weeks.

In this connection I should like to call your attention to the fact that there are two ampoules of different sizes on the market. Dr. Little has told you of the ampoule containing .275 mgms. of histamine per cc. There is another ampoule on the market containing 2.75 mgms. of histamine per cc., and I had the unhappy experience of using this on one occasion, and I can assure you that the patient did not appreciate it.

All manner of plans of so-called desensitization with histamine have been advocated by different men. Personally, I have found that a much smaller dose than the one indicated has given me just about as good results as we could ask for, with this plan of therapy. I have taken the .275 mgms. ampoule of the histamine and made it up to a 5 cc. total quantity. Then, beginning with .10 cc., we have slowly increased this up to a 1 cc. dose.

Histamine gives relief of the histaminic cephalgia for a period of weeks or months. When there is a recurrence of the condition, it responds to the second course of histamine therapy. I have given one of these repeat courses of histamine with very good results.

I have enjoyed Dr. Little's paper immensely, and I think Dr. Horton made a very distinct contribution in describing and differentiating this type of cephalgia, and I think Dr. Little has done very well indeed to bring it to our attention at this time.

DR. LITTLE (closing discussion)—I want to thank these men for their discussion. I am sorry that I can not answer Dr. Otken's question. As I stated at the outset, this is a relatively old syndrome that has been recognized recently and much experimental study is still going on. It was because of the favorable results that have been obtained in this particular syndrome by the use of histamine that I presented the subject for your consideration. I do hope that in the future we will learn more and more about this particular syndrome. We may find we are entirely wrong and we may find another drug that will cure every case, or at any rate control if not cure a large percentage of these cases.

I am glad Dr. Otken mentioned the diagnosis of brain tumor, because in talking to Dr. Murphey and Dr. Semmes of Memphis, they told me they had several cases under consideration that were suffering from brain tumor that had been treated for histamine cephalgia. So much can be learned, and there is so little I know about it, I hope the next time this subject is under discussion that additional information will be available. I thank you.

Endemic Typhus Fever—A Report of Nine Cases

S. K. JOHNSON, M.D.
PELAHATCHIE, MISS.

SINCE SEPTEMBER, 1939, I have seen nine cases of endemic or murine typhus fever. All cases have occurred in and near my small community. All except one of the cases seen can be traced to three buildings in the town of Pelahatchie, Mississippi. All cases have run a severe course with certain characteristics which are parallel, but in some instances there is a difference from cases reported in the literature. I shall discuss these cases as a group rather than separately.

Historically, typhus fever has played an important role in times of famine, misery, filth, overcrowding, and wars. It is a disease antiquity and was, no doubt, one of the diseases of which frequent allusion is made in the Bible under the term pestilence.[1]

Typhus fever usually follows in the wake of armies and when it occurs claims more victims than the casualties of war.[2]

Huge epidemics have been recurrent in the British Isles, Continental Europe, and Asia. They have usually occurred during and following wars and exacted a toll of human life running far into the millions. This, however, is louse-borne or epidemic typhus.[3] Endemic or murine typhus follows the same clinical course as epidemic typhus but the symptoms are milder, complications are rarer, and the mortality is lower. It is transmitted from rat to man with the rat flea as the vector. There is considerable evidence that given murine typhus under insanitary, or, if you please, lousy conditions, lice would readily become the vector and transmit the disease from man to man as the epidemic form, with an increase in virulence and a corresponding increase in severity and mortality. We have plenty of endemic typhus in the southern United States and we are at war. In Georgia, Alabama, and

Mississippi the incidence of the disease has increased at an alarming rate since 1930. Mississippi in 1933 had its first case reported, the only one that year. Since then the reported cases have increased as follows: In 1934 no cases; in 1935 six cases; in 1936 eighteen cases; in 1937 thirty cases; in 1938 forty-two cases; in 1939 sixty-one cases; in 1940 fifty-one cases; and in 1941 sixty-five cases.[4]

ETIOLOGY. Murine typhus is a rickettsial disease. According to Blumer[5] the exciting cause of the Old World typhus type of epidemic typhus is Rickettsia prowazeki, a small non-filterable bacterium-like body which is found in the intestinal epithelium of the louse. The exciting cause of New World epidemic typhus or tabardillo is the Rikettsia Moorseri; and sporadic or murine typhus may be caused by either the old or the new world virus.

There is quite a variation in the descriptions and case reports which are in the literature. We might suspect that two strains of Rickettsia prowazeki may not be the only strains which exist.

PATHOLOGY: The pathology is that of endarteritis and perivascular infiltration. This would explain the more important complications, namely, gangrene of the extremities (occurring in the epidemic form) parotitis (occurring in both the epidemic and endemic forms). Encephalitis which probably occurs to more or less degree in all cases, and acute dilatation of the heart which is a late or convalescent complication. Dr. George Riley of the State Board of Health has told me that all the cases that have died in Mississippi have died with this last complication, during convalescence. Goodman[6] advanced the thesis that thromboangiitis obliterans is a late manifestation of a previous typhus infection and has produced some rather strong evidence that his thesis is well founded.

LABORATORY FINDINGS: Blumer[7] states, and I quote, "The laboratory findings with the exception of the Weil-Felix reaction can hardly be described as pathognomonic. The urine shows nothing but ordinary febrile changes. The blood picture varies with the stage of the disease and the severity of the infection. Some writers state that leucopenia is usual until the rash appears, after which there is a leucocytosis with an increase in the polynuclear ratio. While this may be the rule, there are some patients who from the onset show leucopenia and a polynuclear ratio as low as 20%."

All of my cases have shown a marked leucopenia and a decrease in the polymorphonuclear count varying from a low of 51% to a high of 64%. The accompanying table will illustrate this. In the six cases that were checked after the appearance of the rash, there developed a slight leucocytosis with a return to normal of the polynuclear mononuclear ratio. Urinalysis and malaria smears were negative in all cases.

In one case a positive Kline with a positive Eagle and a negative Wassermann developed on the tenth day. On the fourteenth day Kline, Eagle, and Wassermann were all positive. Four weeks later these reactions were again found negative.

The Weil-Felix reaction became positive from a minimum time of twelve days to a maximum time of twenty-one days, or an average time of about sixteen days from the onset. Again I refer you to the table.

CLINICAL COURSE. In every case the patient gave a history of general malaise, headache, fever, chilly sensations, and muscular soreness. On or about the fourth day the chilly sensations had become chills of the bed-shaking variety which occurred two to six times daily at no constant time and were of varying severity. The patients were always unable to sleep. From the onset one of the most striking features has been the evidence of central nervous system disturbance. From the beginning that was a gradual increase in irritability which progressed to delirium by about the tenth day. The temperature ran a parallel course in all cases; it went up and remained above 100 degrees F. fluctuating between 100 and 105 peaking on or about the fourteenth day, at which time the rash reached its widest distribution. Termination was by lysis, the temperature usually becoming normal by the twenty-first day. The eruption appeared first about the tenth day first on the upper abdomen, spreading over the entire body including the scalp, the palms of the hands and the soles of the feet. It was maculopapular in character. The individual lesions varied in size from those of a pin head to those of a small pea; they did not disappear on pressure. In color they were rose to dark red, fading in about four days to coppery pigmented patches from which the outer layers of skin scaled as they disappeared. In all but two cases the

ENDEMIC TYPHUS FEVER

Laboratory Findings in Nine Cases

	Before appearance of Rash				After appearance of Rash				
Case	W. B. C.	P. M. N.	Lymph.	Urine Malaria	W. B. C.	P. M. N.	Lymph.	Positive	Weil-Felix
1. 1/39	5,000	61%	39%	Negative	10.600	74%	26%	1-1280	16 day
2. 2/39	4,050	64%	36%	Negative	8,750	75%	25%	1-640	14 day
3. 2/39	4.000	56%	44%	Negative	Not run			1-160	18 day
4. 11/40	5,200	58%	42%	Negative	Not run			1-1280	18 day
5. 10/40	4,000	62%	38%	Negative	Not run			1-2560	17 day
6. 11/40	5.800	63%	37%	Negative	10.200	73%	27%	1-640	21 day
7. 11/40	5,900	59%	41%	Negative	9,050	72%	28%	1-40 1-640	12 day 13 day
8. 12/41	4,700	51%	49%	Negative	8,700	70%	30%	1-160	13 day
9. 12/41	4,200	61%	39%	Negative	10,400	74%	26%	1-320	13 day

spleen was palpable from about the fourth day. After the rash reached its height the symptoms gradually subsided. During this period of lysis attacks of severe depression accompanied by profuse sweating occurred. These sweats in two instances recurred at intervals for as long as three weeks after the temperature became normal. For three to six weeks after the termination of fever these people remained in a state of depression, weakness, and general physical debility.

Complications occurred in one case, that of a man age 64 who developed a retention of urine. He had to be placed on catheter drainage his last ten days of fever. Two weeks after termination of all fever a transurethral prostatic resection was done with complete relief of symptoms. This man developed and still has an ulnar neuritis. Sequelae were observed in three cases. Two cases who developed the disease four weeks apart in the same home are still suffering from severe attacks of paroxysmal tachycardia. This has continued for more than a year with no improvement. These people have been unwilling or financially unable to submit to electrocardiographic study. Physical findings are negative except for tachycardia. One case developed and still has visual disturbance which she has persistently refused to have investigated. This patient, who by the way, ran the mildest course of any seen, complained more of photophobia and severe pain in her eyes than of anything else.

The Diagnosis: The patient in a locality where endemic typhus exists who is having intermittent chills, who is sleepless, who is irritable, who has a leukopenia of less than 6,000 and has no other significant laboratory findings, whose temperature does not fall below 100 degrees and who has no physical findings to indicate other acute febrile disease, should be suspected of having endemic typhus fever. The final diagnosis cannot be made until the second or third week when a positive Weil-Felix reaction can be obtained. Repeated agglutination tests should be run until the diagnosis of typhus is confirmed, or some other diagnosis made.

Endemic typhus must be differentiated first from malaria and typhoid, then the less common things, namely Rocky Mountain spotted fever, tularemia, infectious mononucleosis, undulant fever, and dengue.

Treatment: As to treatment there is little to say except that it is symptomatic and we have little success in relieving the symptoms. Opiates seemed to add to the anxiety, restlessness and sleeplessness in every case. They did not relieve headache. The same may be said of bromides and barbiturates. One man who was a confirmed alcoholic got relief from whiskey (so he said). In the last two cases we used peralga tablets which contain barbital 1.5 gr. acetophenetidin 2.0 grains acetylsalicylic acid 3.5 gr. These seemed to help control the temperature somewhat and did give some relief of pain.

When a country doctor sees a patient having chills, even if he cannot find malarial parasites, the temptation is just too great to try quinine or atabrine anyway. So all but one of these cases had two or three days' treatment with one or the other of these drugs. No results. When laboratory findings and physical examination failed to throw much light on the picture, atabrine or quinine had no effect, the patient's chills grew harder and progressively worse, we naturally turned to the sulfa drugs, sulfanilamide first, then sulfathiazole. No results. Sulfadiazine was used in the catheter drainage case to control possible kidney and bladder infection. No results as far as typhus was concerned.

Good nursing, forcing of food and fluids, darkening of the rooms, elimination of noise and visitors or other sources of stimulus, and the administration of 5% glucose in saline as deemed necessary were the only measures which seemed effective in any way.

Preventive measures have been confined heretofore to the elimination of the sources of infection, the rat population. This has proved effective in Georgia by a marked reduction in the number of cases. Measures used were the rat proofing of buildings, poisoning and trapping campaigns, and clean-up campaigns. I might say in this connection that such a program is being carried out in Rankin County Health unit in coöperation with the county, the municipalities, and the State Board of Health.

A preventive vaccine was produced by Weigl[7] using the G. I. tracts of lice as a culture medium and has been successfully used but is so expensive and time consuming to make as to be impractical. A new vaccine consisting of a suspension of killed louse-borne epidemic typhus Rickettsia prepared by Cox' yolk-sac culture method is said to be in use by the armed forces. I have heard of no such measures being taken in regard to murine typhus.

Conclusion: First, the presence of endemic typhus fever and its increase in the Southern states indicates that there is an increase in incidence among the rat population of these states. This situation provides increasing numbers of foci of infection from which it is possible that a louse-borne epidemic of typhus might spread, given proper conditions to favor such an epidemic.

Second, the civilian defense program should be encouraged insofar as possible to wipe out such foci of infection, and the armed forces recognize that such foci do not exist.

Third, endemic typhus is a severe, debilitating disease which causes much suffering and great economic loss by its victims, though it seldom kills.

Fourth, there is no adequate treatment except that of general supportive measures.

Fifth, the diagnosis can be suspected but not proved until late in the course of the disease.

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Cardinal Points in the Diagnosis and Classification of Heart Disease

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HEART DISEASE is by far the leading cause of death today, there being approximately twice as many deaths from it as from the next most common cause, cancer.

As the greatest killer in our midst today it should be most vigorously pursued as Medical Enemy Number One. Is it not logical to give the greatest battle to the most powerful enemy?

Heart disease is not something inevitable that comes along in life as a matter of course. Each type has a specific cause, and, although relatively little in the way of prophylaxis is being accomplished, we can best prevent it when we keep in mind the known specific etiological factors.

When found to have almost any type of heart disease I fear that many a patient is dismissed from the office and from the physician's further concern with a prescription for digitalis and the advice to get plenty of rest.

While both digitalis and rest are fundamental treatments, we should concern ourselves more with the probable cause of the particular patient's illness. If, for instance, there is evidence of hyperthyroidism or of syphilis as a cause, the treatments would be quite dissimilar.

As a result of the increased attention that heart disease is receiving, some of our former concepts are undergoing great changes. Formerly the anatomical lesion received the greatest emphasis and was most often used as a basis of progress. The etiological agent of a given lesion received relatively small consideration, and the criterion of whether or not a patient had heart disease was to many physicians the presence or absence of a murmur.

It should be recalled that a patient may be near death with organic heart disease, yet not have a murmur; and that a patient may have a distinct murmur, yet not even have organic heart disease (functional heart disorder). Cabot states that sixty-five per cent of heart disease is non-valvular, while Halsey states that seventy-seven per cent of heart disease is non-valvular and that only twenty-two per cent is valvular. Consequently, we see that the vast majority of cardiac cases do not have a murmur.

We should no longer attach all importance to fine distinctions in types of murmurs; nor should we be satisfied with indefinite diagnoses, such as "organic heart disease" or "chronic myocarditis." The etiological diagnosis is the preferred one and should at least be included in the final summary, together with the anatomical and physiological diagnoses when possible. Of course, two or more etiological types may coëxist.

We have learned that the condition of the heart musculature is of the greatest importance—greater than deformities of the valves and their resulting murmurs. I wonder if there are not some of us today who still depend too much on what we hear through the stethoscope to the exclusion of other signs and symptoms of disease that may be relatively obvious.

A careful history is most essential. In a general way the most significant points suggesting heart disease are unusual shortness of breath, edema of the ankles, precordial or epigastric pain, as well as various digestive disturbances.

According to the criteria of the American Heart Association, the various diagnostic methods employed are (1) complete physical examination including the determination of temperature and blood pressure; (2) electrocardiographic examination as an aid in appraising the nature and extent of structural changes in the myocardium; (3) roentgen ray examination using teleroentgenography, flouroscopy, or both, to ascertain the position, size and shape of the heart and blood vessel; (4) Wassermann test; (5) blood counts; (6) other tests when indicated (as, for example, the basal metabolic rate in suspected thyroid disease).

While the electrocardiograph and x-ray are not always available, the most important one of these aids is always available—the physical examination with the classic divisions of inspection, palpation, percussion, and auscultation.

It is important that the procedures come in the order named with inspection first and auscultation last. I can not emphasize too strongly the importance of this definite routine. Instead of approaching the patient the first thing with the stethoscope and listening to the upper precordium through an unbuttoned collar, perhaps, the patient should in the beginning be exposed to the waist and the use of the stethoscope reserved as the final and confirmatory procedure. The use of the stethoscope alone is usually not sufficient to determine the etiological type.

Inspection should include a search for precordial bulging, the point of maximum apex impulse (most important in determining size), and other localized impulses or points of retraction, for the presence of edema in dependent parts, particularly the ankles. Inspection also includes a search for cyanosis, pallor, petechiae, vigorous and abnormal pulsations of the great vessels of the neck, and clubbing of the fingers.

Palpation should be first used to locate the apex impulse, in order to approximate the size of the heart. With the hand flat against the precordium, abnormal impulses and thrills may as well be determined. Palpation is also used to examine for edema, especially pitting edema, enlargements of the liver and spleen, the pulse rate and the compressibility and hardness of the arteries.

Percussion is used to outline the area of cardiac dullness. Auscultation is used to determine the presence or absence of murmurs, the character and quality of the sounds, and the cardiac rhythm, as well as the point of maximum impulse.

Of all the procedures none are more valuable or more neglected than those used to determine heart size. Most heart diseases result in ultimate clinical increase in heart size, which is of great diagnostic value in determining the presence of heart disease. Cabot, quoted by Halsey, states that simple hypertrophy is the most common heart lesion, while Hitzig states that heart failure to the degree causing dyspnea in chronic heart disease is always associated with enlargement of the heart. You will note that inspection, palpation, percussion, and auscultation are all useful in helping to determine cardiac size.

The differential diagnosis of heart disease is obviously not within the scope of this paper, neither is a discussion of technical electrocardiographic findings; however, we may well review the principal clinical characteristics of the main organic etiological types. A convenient condensed classification is used.

The first group includes those types usually seen before the age of forty; the second group those types usually seen after the age of forty.

CONGENITAL HEART DISEASE. Congenital heart disease is essentially a disease of infancy and childhood, only a few living beyond the adolescent period. The classical signs are cyanosis that becomes pronounced upon exertion, clubbed fingers, and a loud murmur over the base of the heart usually systolic in time. Other developmental defects are often associated with congenital defects of the heart. The incidence of congenital heart disorders will average somewhat less than one per cent; however, Wood, Jones, and Kimbrough found an incidence of one to one and one-half per cent.

RHEUMATIC FEVER. Halsey estimates that 90 per cent or more have cardiac injury following rheumatic fever. Most estimates run from 60 to 100 per cent. The most common cause of heart disease under 40 is rheumatic fever. In the Middle Atlantic and New England States rheumatic fever is estimated to cause from 25 to 50 per cent of all heart diseases. The lowest incidence that I have seen reported is 3.4 per cent of 1660 cases at Galveston, Texas, by Schwab and Schulze, but I feel sure that many of their cases listed as unknown would have shown rheumatic lesions at autopsy.

While we do not see a great number of frank rheumatic fever cases here in the South, as we do in the more temperate regions, we often have rheumatic equivalents such as "growing pains," recurrent tonsillitis and less often chorea. The rheumatic infection may be so mild as not to be recognized, or to be mistaken for a cold; therefore, a negative rheumatic history is only presumptive.

It has been pointed out by McLester, Longscope (quoted by McLester) and many others that the typical findings of rheumatism are very often found at autopsy in patients with absolutely negative rheumatic histories. A history of rheumatism is not essential to a diagnosis of rheumatic heart disease.

Mitral stenosis is the most typical lesion; however, systolic murmurs are also heard, and the heart is usually enlarged. Libman has found fifteen years to be the average life span following the onset of rheumatic heart disease.

BACTERIAL ENDOCARDITIS. Fortunately, this type is relatively rare. It is often preceded by heart damage, as by rheumatic fever, and congenital heart disease, and it results in great damage to the mitral valve with the formation of vegetations. The usual criteria are the appearance of an organic murmur while the patient is under observation, a change in the character of the murmur, septic type fever, embolic phenomena, and tachycardia.

DIPHTHERIA, SCARLET FEVER AND OTHER ACUTE INFECTIONS. These cases are recognized not by any particular lesions so much as by the history of the preceding acute infection and myocardial failure. The diagnosis is more certain when the heart is known to have been normal preceding the acute infection.

HYPERTHYROIDISM. It is still a debated question as to whether hyperthyroidism is a cause of heart disease or not, many contending that previous organic disease existed in the apparent thyroid cases. The characteristic signs, in addition to the signs of hyperthyroidism, are tachycardia, hypertrophy, and auricular fibrillation. It seems reasonable changes would cause permanent myocardial damage. Schwab and Schultz report a country-wide average of 1.9 per cent incidence of thyroid heart disease in a large series of heart cases.

The remaining types of heart disease comprising the second group are seen most often after the age of forty.

Coronary heart disease might be placed under the head of arteriosclerosis, as most cases are attributed to this cause. It seems most convenient, however, to study it under the heading of coronary disease.

Angina pectoris, or the anginal syndrome, is caused most commonly by sclerosis or by spasm of a coronary vessel, resulting in ischemia of the heart muscle, but may be caused by other disorders about the base of the heart. The incidence varies from two to ten per cent, averaging lowest in the South and highest in New England. The diagnosis is usually not difficult, but more than thirty disorders with which it has been confused have been reported by Herrick recently.

The symptoms are too well known to need repeating; however, the most common symptoms are acute precordial pain following exertion that radiates most often down the left arm, a sense of chest constriction and a fear of impending death.

CORONARY THROMBOSIS OR OCCLUSION. Angina pectoris must be differentiated from coronary occlusion, in which there is sudden excruciating pain in the substernal or epigastric region plus the signs of severe shock. Coronary occlusion is the cause of most cases of sudden death due to heart disease, and most deaths attributed to "acute indigestion" are in reality due to coronary occlusion. It is rarely seen in people who are not subject to mental strain, as in the negro, but is four times as common in the business and professional classes as in the laboring class. Physicians are especially vulnerable.

SYPHILITIC HEART DISEASE. The diagnosis of this type is made by suspecting it and looking for it. It is not an uncommon type, most authorities quoting the incidence as eight to ten per cent of all cardiac cases. It is especially high among negroes, due, no doubt, to the high incidence of syphilis in this race. A history of previous syphilis, signs of tertiary syphilis and the signs of aortic regurgitation, or of an aneurysm, are most suggestive. However, routine serological examination will suggest even more. All suspicious cases should have a spinal fluid examination in spite of a negative blood Wassermann.

HYPERTENSIVE HEART DISEASE. Hypertensive heart disease is the most common type of heart disease seen in the country as a whole. Within itself it causes more deaths than cancer, and is becoming each year more common. In this section approximately half of the cases of heart disease that come to our attention are hypertensive in origin. The highest incidence is in the South, and the lowest proportion is in those regions where rheumatic fever is most common. A country-wide average from statistics reported by Schwab and Schultz in over 6,000 cases is 52.4%.

Hypertensive heart disease may be termed as that heart disease found with associated cardiac enlargement and persistent hypertension. A hereditary influence and the stress and strain of modern life are thought to predispose to the hypertensive state, and that this state in turn through its increased load on the heart and the vascular tree causes the cardiac failure and hypertrophy. Arteriosclerosis is often found at autopsy.

ARTERIOSCLEROSIS HEART DISEASE. We may loosely term this type as that found associated with evidence of arteriosclerosis. It is rarely found before the age of forty and is most common in the sixth and seventh decades. The American Heart Association states that "It is frequently difficult or impossible to separate arteriosclerosis from hypertension as a cause of heart disease, because they so often coëxist." The differentiation is made even more difficult when we remember that hypertension within itself may cause sclerotic changes in the arteries. Since most cases of hypertensive and coronary heart disease have an undoubted sclerotic background, we see that the great majority of all heart diseases falls in the arteriosclerotic group. Again we may recall Osler's observation that "A man is as old as his arteries."

In this paper a plea has been made for a more careful examination for heart disease in general practice based upon an etiological classification, so that a more individualistic treatment may be carried out.

An etiological classification of the most common types of organic heart disease is presented, and some of the cardinal points in the diagnosis of each type have been reviewed.

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Treatment of Malaria*

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THIS SUBJECT has been discussed for many years without ever arriving at uniformity of action. My reason for reopening the discussion at this time is largely due to the fact that circumstances (lack of quinine) may force us to change our former plans in the treatment of malaria. This change must be anticipated and necessary preparation made to meet the changing conditions.

A. GENERAL CONSIDERATIONS

1. Rest in bed. Perhaps in very few conditions is rest in bed more essential than in the treatment of acute malaria. The period of disability can be definitely reduced and more rapid relief of symptoms assured by rest.
2. Diet. Nourishing liquids should be given during the acute febrile period and a well-balanced regular diet given as soon as tolerated or the desire for food will permit. In case there is not a prompt return of normal appetite, this must be given immediate attention. In many cases a small dose of $MgSO_4$ given on the third day will quickly restore the appetite. Tonics and coaxing may be required in order that the patient may take food. If the patient eats properly and well the convalescent period will be definitely reduced.

3. Symptomatic treatment. An ice bag may be employed for simple headache or spinal punctures for severe or persistent headache.
4. Treatment of complicating systemic or focal infections, malnutrition or other associated diseases. Many cures in malaria are greatly delayed on account of associated conditions.

Rest in bed, diet and symptomatic treatment alone (if necessary due to lack of quinine) will control a large number of cases with malaria. In experiments no treatment was used except general. In laboratory surveys 16% of untreated positive blood examinations were negative at end of month. No drugs administered. Possible result of acquired resistance to the disease.

With a definite shortage of quinine and the possibility that later on we will have none, we must be prepared to meet whatever emergency may confront us. Under the stress and strain of war it is utterly impossible to treat soldiers successfully by the general or expectant plan and accomplish results by rest, diet and symptomatic treatment comparable to results obtained with civilians in peacetime. For this reason, we as civilians must be prepared to conserve every grain of quinine possible or even give up quinine entirely for the duration.

B. Drugs.

1. Quinine. Dosage—conventional grs. 30 daily until acute symptoms are controlled, then grs. 15 daily for the remainder of week, followed by grs. 10 daily until cured. It is extremely difficult and undesirable to attempt to set and follow a routine in the treatment of malaria. For in certain types of malaria the plan of treatment must be entirely individual as in (1) cerebral type, very small doses of quinine (if any) should be given until patient has regained consciousness. Frequent spinal punctures may be required to relieve the greatly increased intracranial pressure and to assist in relieving the cerebral capillary blocking and restlessness. Typical manic states are frequently due to this condition, which in turn is caused by cerebral capillary blocking resulting in greatly increased intracranial tension. Large doses of quinine in this condition will increase the parasite and cellular débris in the blood stream and consequently aggravate the cerebral capillary blocking and death will result. On the other hand, if spinal punctures are followed at regular intervals, say q. 6 hours or as often as necessary to keep patient quiet and comfortable, and with little if any quinine given during unconscious period, the patient will usually show signs of improvement and gradually regain consciousness. Then the dosage of quinine may be gradually increased with comparative safety. The patient will probably recover if treated conservatively. (2) Algid type. Treat shock (strychnine valuable) and give food. Give very little or no quinine until temperature is normal or above, then gradually increase quinine. (3) Severe anemia. Treat anemia with food, rest and conservative specific medication. Perhaps atabrine should be tried. (4) Hematuria (black water fever). No quinine or other specific antimalarial medication may be given until complete recovery from hematuria (possible exception if blood is positive—rarely if ever true. Probably atabrine might be given with caution in such cases). Force fluids (water). No food may be given until after the hematuria clears and then with a great deal of caution for the first few days.

   Treat the anemia and malaria following the clearing up of hematuria.

2. Atabrine. 1 tablet (0.1 gm. or grs. 1½) t.i.d. for 5 days. At present it appears best to limit the total dosage to 15 tablets.

3. Plasmochin or plasmochin compound. Two tablets 10 mgm. each or 20 mgm. total may be given after supper one day and repeated a time or two at weekly intervals as an additional element of safety. It appears that we are overlooking the value of plasmochin in this country. It is of definite value in the destruction of gametocytes (sexual forms of parasites) especially in estivo-autumnal type of malaria. Since plasmochin will render estivo-autumnal gametocytes non-infectious for mosquitoes, much might be accomplished by its use in preventing the spread of

malaria. (Experimental work in Honduras).

SUMMARY

A. GENERAL CONSIDERATION.

(1) Rest in bed, (2) diet, (3) symptomatic treatment, (4) treatment of complicating systemic or focal infections, malnutrition or associated diseases.

B. DRUGS.

(1) Quinine, (2) atabrine, (3) plasmochin.

CONCLUSIONS

None offered.

Diagnostic Hints in Diseases of the Eye

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PARALYTIC SQUINT is usually the result of an infectious disease, such as scarlet fever, diphtheria, etc., which poisons the peripheral nerves supplying the ocular muscles, or due to central lesion in the brain caused by tuberculosis, syphilis, brain tumor, meningitis, etc.

The hyperopic eye is very likely to be predisposed to conjunctivitis, blepharitis, congestion of the retina and choroid glaucoma, phlyctenular affections and internal squint.

An error of refraction is a frequent cause for a disturbance of the normal relationship between accommodation and convergence.

When one pupil appears constantly dilated it is most likely due to pressure on the sympathetics by an aneurism.

Round and oval scotoma are significant of destructive, degenerative lesions of either the retina or choroid.

Postoperative tetany cataracts are found most frequently in women.

Primary corneal ulcers most frequently originate in the surface epithelia, cells of the cornea, and are usually due to bacterial invasion.

Lines of migrated pigment along the retinal vessels are either from retinitis pigmentosa or from syphilis.

Excessive use of carbohydrates has been known to cause inflammatory diseases of the eye.

Opacities of the vitreous are rather common in high degree myopia associated with changes in the choroid.

Corneal necrosis is mostly due, either directly or indirectly, to bacterial invasion.

A lack of vitamin C combined with a calcium deficiency may be responsible for repeated vitreous hemorrhages of unknown origin.

Paralytic squint appearing suddenly in adults is most frequently due to a brain condition.

In any form of optic atrophy the discs always assume a very white appearance which is quite characteristic.

Severe pain in the eye, radiating along the branches of the fifth cranial nerve and resulting in severe headaches, should make the oculist suspicious of glaucoma. Sometimes the attack becomes so severe that the patient is nauseated and vomits. Intraocular tension should always be taken without delay in such cases.

When examining a child who presents the following symptoms the possibility of congenital glaucoma should be kept in mind: enlarged and bulging cornea (which may be either clear or clouded), very deep anterior chamber, dilated pupil, atrophied and tremulous iris, thinned and bluish sclera, and deeply excavated disc.

Tuberculosis as it affects the eye is, as a rule, more intractable than syphilis, the nodules lasting longer.

Unilateral amblyopia predisposes to squint by lessening the value of binocular vision.

Bilateral amblyopia is nearly always associated with nystagmus.

Night blindness is one of the most prominent symptoms in retinitis pigmentosa.

Vertigo, nausea, and uncertain gait are frequent symptoms due to diplopia and to false projection.

The yellow reflex, or amaurotic cat's eye, is the most striking sign in glioma of the retina.

Concomitant squint is the usual result from a disproportion in strength between the power of convergence and the power of divergence.

Divergent strabismus does not usually become manifest in early childhood, but usually develops in youth or adult early life.

Anterior choroiditis is seen most frequently in congenital lues.

Central choroiditis occurs most frequently in cases of high myopia.

Chronic periostitis of the orbit may be due to either tuberculosis or to syphilis.

Acute periostitis of the orbit is always secondary to sinus infection.

A dust-like haziness of the vitreous is very suggestive of lues.

The retinitis of Bright's disease is always bilateral.

Leukemic retinitis presents a picture of swelling of the retina and disc with numerous hemorrhages. The blood vessels of the fundus are greatly dilated and tortuous, and the fundus itself is pale red with a yellowish tinge.

In early childhood hyperopia often causes a convergent squint when the fusion sense is deficient.

In quite a few cases of diabetes the retinal vessels are outlined by a yellowish white exudate.

Acute glaucoma is found mostly in hyperopic eyes, or in small eyes where the circumlental space is less conspicuous than in the myopic eye.

Squint is often a manifestation of ocular paralysis, due to some systemic disease.

Detachment of the retina, when due to disease is at first partial with a tendency to become complete.

Diseases of the optic papillae are manifested by no external sign except that the pupils are dilated in proportion to loss of sight.

Retrobulbar neuritis, toxic in character, produces gradual diminution in acuteness of sight, but the field of vision differs from intraocular optic neuritis in that the peripheral boundary is normal.

Increase of intraocular tension while it is most often found in glaucoma may also be found in cyclitis.

In acute iritis the cornea is transparent and sensitive, while in acute glaucoma the cornea has a steamy appearance and is insensitive. Also in acute iritis there is a circumcorneal injection, while in glaucoma there is an episcleral injection. These points help in differentiating these two conditions which are often confused.

When ulcers and syphilis can be ruled out, phlyctenular eruption of the eyes can be attributed to deficiencies in the diet, particularly shortage of either proteins or vitamins.

Hemispherical scotomata are significant of destructive diseases of one-half of the visual tract, before or behind the chiasm.

Rapidly developing bilateral cataracts in young persons, especially in females, is quite frequently due to postoperative tetany.

Iritis is never primary. Always look for some deep-seated constitutional disease, which when it is cleared up will cure the iritis.

In paralytic strabismus secondary deviation is greater than primary, because of the exaggerated innervation required to fixate with the paralytic eye.

The Treatment of Dacrocystitis in Children*

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STARKVILLE, MISS.

STANDARD TEXTBOOKS are very meager in their discussion of dacrocystitis, especially in regard to treatment of this condition in children. In most instances the only recommendations made are in regard to the general nutrition of the child and the search for pathology in the nose which would cause obstruction of the tear duct. Consideration is also given to cases of chronic obstruction where probing is necessary and often dacrocystorhinostomy or extirpation of the lacrymal sac.

In Parson's *Textbook of Ophthalmology* is given the routine of treatment which in my hands has given the best results and which has occasioned this report. He recommends, of course, general and local examination with especial attention to nutrition disorders tending to lower both general and local resistance to infection. It is brought out that the condition is seen most frequently in children of lower classes. In dacrocystitis of the newborn which is most frequently caused by obstruction of the lacrymal passages by a plug of mucus, irrigation of the sac in recommended, followed if necessary by probing with a small Bowman probe. In older children where secondary infection has taken place in the sac, irrigation and probing is also carried out. He mentions, however, that the results have been usually bad. Dacrocystectomy is often the ultimate outcome.

It has been my privilege to treat four children within the past year and a half with this disorder and their case histories are presented below. Two of these were treated while I was practicing in Alabama and before sulfathiazole was in general use; the other two have been observed since I started practice again and the results can be compared.

CASE I— M. W., Age 3 mos., W. F.

This child was brought in with the history of tearing and purulent discharge from the left eye since birth. She had never had treatment. Examination revealed an apparently healthy white female child with no abnormality except dacrocystitis of the left sac. There was no abnormality of the nose. She was put in the care of a pediatrician and local treatment consisting of irrigating the lacrymal sac with boric acid solution and using the same solution as an eye wash. Irrigations were continued for a period of six weeks at the end of which time there was still some purulent discharge; the tearing had not changed. Probing was resorted to but did not result in improvement. After treatment for two months the case was not seen again.

CAES II—A. H. G. Age 4, C. M.

This was again an apparently healthy child with negative physical examination and serology. There was no nasal obstruction and no deficiency of the diet could be detected. He had a left-sided dacrocystitis with apparent obstruction below the sac. There was a profuse purulent discharge and constant epiphora. Irrigations of the sac with boric acid solution followed by probing here also resulted only in some alleviation of the discharge in a period of one month.

CASE III—M. C. R. Age 7 mos., W. F.

Healthy child with history of discharge and epiphora right eye since age three months. No abnormal findings noted on general examination. The child was not taking cod liver oil but otherwise its nutrition was apparently adequate. She had been treated for a period of eight weeks with instillation of zinc solution as eye drops. Smear of the pus showed a mixture of staphylococci and short chain strep. Irrigation of the lacrymal sac with 5% sodium sulfathiazole solution was started and the same solution prescribed as an eye wash. At the first irrigation two drops of methylene blue were added to the solution and no evidence of coloration was seen in the nose. At the third irrigation, six days later, the solution went through into the nose. By this time there was no discharge from the eye and the mother had noticed no tearing for two days. After two more irrigations the child was discharged. She was well for a period of two months when coryza, an infection of both sacs, developed but no epiphora was noted. She has now been clear for two weeks after two irrigations of the sacs on successive days.

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, September, 1942.

CASE IV—D. L. W. Age 13 mos., W. M.

This child was brought in with history of purulent discharge and tearing, left eye since birth. Examination was negative except for left dacrocystitis. The same treatment was instituted as in Case III. There was definite obstruction of the naso-lacrimal duct. After three irrigations of the duct on alternate days the solution returned clear. On the fifth irrigation there was no return of the solution, the passages having become patent. The child has remained free of trouble for nearly three months.

DISCUSSION

The finding of a predominance of staphylococci in the discharge and experience with Cases I and II occasioned the use of a sulfathiazole solution. Irrigation was done through the lower punctum with an ordinary 2 cc. syringe and a gold, curved, Luer type lacrimal cannula. In two of the cases it was necessary to use a Wilder punctum dilator. Two cubic centimeters of the solution were used for each sac.

In Cases III and IV the pathologic physiologic physiology was evidently not cicatricial stenosis but chronic inflammation of the mucosa with blockage by swelling and débris. Irrigation was beneficial in removing pus and other products of inflammation and by the bacteriostatic activity of the drug. As the inflammation subsided, the duct became patent allowing drainage and further subsidence of the inflammation.

Writing in a recent article in the J.A.M.A., Futch, et al., showed by experiments on rabbits that sulfathiazole solution has a caustic effect when applied to the nasal mucosa. No experiments have as yet been carried out on human subjects. The lacrimal sac and naso-lacrimal duct are lined with the same type of ciliated columnar epithelium as is seen in the nose. It remains to be seen whether the solution has also a caustic effect on the lacrimal mucosa. These experiments, however, were carried out on normal mucosa and the effect on a mucosa already partially destroyed by disease would certainly be different.

The writer realizes that no conclusions can be drawn from the small number of cases presented. It is hoped, however, that the dramatic results obtained in the last two cases will stimulate others to use this treatment and report their results. None of these cases presented evidence of cicatricial stenosis with abscess formation as is so often seen, so the result of treatment in this type of case is not known. The ideal time to treat these cases, however, is early and by clearing them up prevent the complications mentioned above which almost always come to operation.

SUMMARY

Four cases of dacrocystitis in children are presented, two of them treated by irrigation of the sac with boric acid solution with very slight improvement and two irrigated with 5% sodium sulfathiazole solution with apparent cure.

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Not in the glamor of the crowded street, nor in shouts and plaudits of the throng, but in ourselves are triumph and defeat.

—LONGFELLOW.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

We wish to congratulate Tulane Medical School in going ahead and offering their annual postgraduate refresher course in the different branches of medicine. This is fine. It is no time to ration or freeze the flow of new medical information through the doctor and intern, thence to the people in service. This course is a four-day session, March 15-18, at the Roosevelt Hotel, New Orleans.

The Northeast Mississippi Thirteen Counties Medical Society will hold its first quarterly meeting in Tupelo on March 9 beginning at 1:30 P. M. at the Calvary Baptist Church. Dr. Pelouze, loaned by the University of Pennsylvania Medical School to the State Board of Health, will be guest speaker. A splendid program has been arranged. It is nice of Tupelo doctors to invite this medical society again.

It is no time to ration medical service where it can possibly be avoided. It is certainly no time to ration medical information. Medical service should be kept in liquid form, flowing to the people. When we stop medical societies we freeze the new growth in medical science. It is no time for the profession to let up on keeping up with the last word known by any member of the profession. Of course the easy thing to do is to pull in and quit attending medical societies, but it is not the patriotic thing to do. The challenge to doctors in civil practice is to keep available to the people service in volume sufficient to continue increasing our medical assets. Therefore, let us keep the best known in medicine flying one to the other, from the war fronts to the people and from the laboratories and civil practice to the war fronts.

Practitioners have their shortcomings and so do specialists. The practitioner may not know so much, but he will tell what he knows without reservation and make it as plain as possible, plain enough that another practitioner can practice by it. The specialist now prefers to talk about a subject from slides, but hardly ever gets to the core of the real thing. He may lead up to the real thing in a very theoretical and complicated manner then wind up by making it plain that he is the only one who really knows how to handle the subject, and that it is safest and best that all cases of that particular class be referred to him. Medical addresses by slides are like radio addresses; much is missed and still less is retained. Worth while medical facts to be of benefit to the majority should be written and delivered in plain language and then published. Every doctor now needs medical information in a usable form. The average man forgets half of a lecture in thirty minutes, two-thirds in nine hours, and four-fifths after a month. So the highly theoretical medical essayists who are going the rounds delivering lectures from notes and slides are blessed with forgetful hearers.

We are sure that many of our doctors will attend the Postgraduate Medical Assembly in New Orleans in March this year. This is especially true since the Mid-South will not meet in Memphis this year. We congratulate the doctors in New Orleans on their vision and determination to continue to go forward. New Orleans is a great medical center, growing and expanding the last few years.

It is time now to think of our state meeting in Jackson in May. The program should soon be complete and the definite plans laid. It might be all right to streamline the meeting into a two-day program, but at any rate we should proceed with the meeting and endeavor to make it the very best one ever. We may leave off the frills and red tape and have the essential part of the meeting. The public night might be combined with the president's night, but both are too important to pretermit.

As far as we are concerned we would vote to go ahead with the Southern Medical Association next fall as usual. It should of course be better held in the mid-South, perhaps Birmingham, New Orleans or Memphis. This nation must assume the leadership in medicine of the future. We must keep medical information flowing freely in the democratic American way. To do this we must keep 'em meeting.

The Grenada County Medical Society and the medical officers of Camp McCain have planned a good program at the camp hospital February 23 at 1:00 P. M. Col. L. W. Long will bring greetings and Gov. Paul B. Johnson will be an honor guest.

Especially worthy of comment is the scientific program, which will be given as follows:

Peripheral Arterial Disease—Dr. Alton Ochsner, New Orleans.

Banting and the Miracle of Insulin—Dr. Seale Harris, Birmingham.

Wound Healing—Dr. Alton Ochsner, New Orleans.

This is election year in Mississippi. Our state has a per capita distribution of funds for the indigent sick which is the greatest step forward in bringing modern medicine to the masses and meting out justice to the entire population that has yet been made on the earth. The original plan of this distribution was to permit a charity patient to go to the hospital of his choice and receive this service on a cost basis. We still have some zoning in this system, which is a species of state medicine, and the practice should be abandoned by all true medical democrats. We have not yet perfected our system for the indigent sick and for improving medical service to the masses at a reasonable cost. The further perfection of the present plan or the completion of the original set-up should be explained to all candidates for the legislature and the governor's office, and their attitude on the matter ascertained. This problem should concern every person in the state. It is not solely for the doctors to decide, although they should be able to advise intelligently when their advice is sought.

It is most unfortunate that Mississippi is offering no internships to young men graduating in medicine. It is estimated now that one third of the doctors living at the end of the war will be retained in the army for years to come, in fact, never to return to civil practice. Mississippi had fifteen per cent less doctors when the war began than she did a half century before, notwithstanding that the population of the state has more than doubled. She has furnished about 150 per cent of her quota to the armed forces. One half of her medical population left is above sixty years of age whereas in the general population less than ten per cent have attained this age. Mississippi is certain to have a shortage of doctors for a number of years. Well-trained nurses and well-trained technicians can serve a fine purpose in helping doctors deliver medical service to the people. A central hospital well staffed to train technicians and nurses can be of untold value to the people. With such a central hospital in addition to the hospitals we now have for the mentally sick and tubercular patients, together with the one hundred small hospitals distributed throughout the state, we can offer many internships and train hundreds of nurses as well as any state in the union. The small hospital is just as much better for training nurses and interns as the large one, for each has advantages over the other which should be utilized. We need to train colored girls as nurses. This should be done at the central hospital. We must give more attention to tuberculosis in the colored race in our state in self-defense. This central hospital should be constructed at an early date to meet an emergency that may have to be met for years to come. It might be under the direction of the State Board of Health, which would probably be domiciled in it. Let us think and act in the interest of the total health assets of our state.

PELOUZE TO MISSISSIPPI

Dr. P. S. Pelouze of the University of Pennsylvania Medical School, an outstanding authority of the nation on gonorrhea, is to spend the entire month of March in Mississippi giving a series of lectures on the diagnosis and treatment of gonorrhea at regular and special meetings of medical societies of the state. He is being loaned to the physicians of Mississippi by the University of Pennsylvania as a contribution to the war effort in view of the increasing importance of this problem in relation to the war. He is well known because of his outstanding work on urology and his authorship of several valuable books, the latest of which deals with gonorrhea. In addition, he is an interesting speaker and possesses an engaging personality. Physicians in Mississippi are fortunate in having the privilege of hearing this authority.

A partial itinerary for these addresses is given below as arranged with secretaries and program committees of different societies over the state by Dr. Felix J. Underwood and his staff.

Other meetings will probably be arranged during the month in sections of the state not served by the societies listed above as time permits working out the details.

At a later date physicians will be notified through the usual method by their respective societies as to the place of meeting and other details.

Since practically all physicians have to deal with gonorrhea and its complications, all physicians are urged to take advantage of hearing Dr. Pelouze at one of these meetings. This is a wonderful opportunity to meet and know this national authority which all physicians in Mississippi should take advantage of. After Dr. Pelouze's address there will be ample opportunity for general discussion and questions.

Society	*Place*	*Date March*	*Time*
Central Medical Society	Jackson	2	6:30 p.m.
Issaquena-Sharkey-Warren Medical Society	Vicksburg	3	7:00 p.m.
Greenwood Leflore Hospital Staff Meeting	Greenwood	4	7:00 p.m.
King's Daughters Hospital Staff Meeting	Greenville	5	7:00 p.m.
Northeast Mississippi Medical Society	Tupelo	9	1:30 p.m.
Clarksdale and Six Counties Medical Society	Clarksdale	10	4:00 p.m.
South Mississippi Medical Society	Laurel	11	6:30 p.m.
North Mississippi Medical Society	Oxford	12	6:30 p.m.
Adams County Medical Society	Natchez (tentative)	16	2:00 p.m.
Pike County Medical Society	McComh (tentative)	17	6:30 p.m.
East Mississippi Medical Society	Meridian	18	4:30 p.m.
Staff, State Board of Health	Jackson	20	9 to 10 p.m.
Coast Counties Medical Society	Biloxi	24	8:00 p.m.

One can not consider any medical problem seriously without being convinced that every vital process involves biochemistry. And since every change in both animal and vegetable life is biochemical, knowledge and understanding of these vital forces and processes is absolutely necessary for complete comprehension of health and sickness. When Shakespeare proclaimed

> There are more things in heaven and earth, Horatio,
> Than are dreamt of in your philosophy

he stated a profound truth, true then, also true today. The Bible statement that there is "nothing new under the sun" is true also. The laws of nature remain the same always—they have never changed, they will never change. But we have been able, as time passes, to grasp and understand these laws better and to apply this understanding advantageously. It has been said that medicine is not a fixed science, but is distinctly progressive. This is relatively true, but not absolutely so. Since medicine is based on laws that are fixed and unchangeable, it would be better to say that our knowledge of this science is progressive. At the beginning of this century little thought was given to biochemistry or endocrinology. Personally, I have attended medical meetings and have read much of current medical literature during the four decades that have already slipped by since the beginning of the century. Profound changes in thought and practice render the old teaching and practice in materia medica and therapeutics well-nigh obsolete. An old-timer in our ranks who has not kept abreast and followed the trend is to be compared to some prehistoric fossil. But one who has kept this eyes turned upward and his face turned forward, rejoices in the knowledge of the fact that life has not been in vain.

Dr. George W. Crile, Sr., mounted the "black camel that kneels once before every tent" but recently, rode away from the familiar scenes of a long, busy and brilliant life. How much the life and labor of this man has meant to medicine and true science can not be expressed in words. He taught us to seek for and discover the infinitely small things of life and to weigh, measure and evaluate them. From his teaching one is led to think of a human being, not simply as a single integral member of society, but as an empire populated by uncounted billions of citizens; for each single cell in the human body is endowed with life. It lives and functions, it achieves its purpose, grows old and dies. It is succeeded by others of its kind which likewise grow into maturity and, having fulfilled their destiny, pass away just as all things mortal do. Under perfect hereditary conditions and proper environment, these individual cells obey nature's laws, and health and vigor prevail. But as a nation composed of many millions of individual citizens must have a ruling head or supreme ruler, so must these cells be subject to laws and rulers. When these laws are disregarded or improperly applied by the ruling powers, a condition simulating bolshevism, rebellion or mob-reign prevails. Then it is that health departs, sickness comes on and death is the result. How like society and civilization! A civilization is born, it flourishes for a time and fades away. For a moment let us trace the analogy. Perhaps the pituitary may be considered as the chief ruler of this vast empire, and all the known endocrines may be thought of as heads of different bureaus? Does a failure on the part of one of these bureau heads cause a discord that results in a complete breakdown of government? One may say, What of the millions of individual citizens, the cells? While not so important as are the bureau heads, they play an important part in the general economy. In the last analysis it is upon these individual cells that all depends.

Only a few years ago we learned of vitamins and now doctors and laymen alike seem to have gone wild on the subject. A proper understanding of the vitamins and their place in the health program is vitally important; but the misunderstanding that prevails today is deplorable indeed. And now we are learning that the boidynes and biotin must be considered and assigned an important role in the further consideration of health and disease. Especially does it appear that biotin must be given a prominent place in our consideration of the cancer problem. Biotin, like other vitamins, is found in foods; the richest known source probably being egg yolk. This substance was produced in crystal form only a short time ago. It is the activating force in all growth and cell multiplication. Under certain conditions, not yet perfectly understood, it probably causes the cell multiplication that is responsible for cancer. It is known that cancer cells are no different from normal cells except in behavior. Many years ago Coley claimed (and demonstrated) that a combination of erysipelas streptococcus and bacillus prodigiosus exercises restraining, perhaps curative, influence on sarcoma. Many doctors perhaps have seen recession of cancer following a severe attack of erysipelas. This probably is due to a neutralization of biotin by the infectious organism responsible for the attack of erysipelas. When biotin shall be made available by the process of synthesis, experimental work will clarify this assumption of cancer etiology. Evenso, much will remain to be explained before a safe working formula can be evolved. However, the claim that biotin is found in abundance at the site of all rapidly growing malignant tumors tends to establish the theory that biotin plays an important part in these Bolshevik uprisings of normal cells. Again we must not overlook the fact that mammary and prostatic malignancies are unquestionably influenced by endocrine secretions. While estrogen administration is very helpful in controlling the disagreeable manifestations of the menopausal state, we must not forget that it is possible that there may be danger of its causing breast cancer. By all means let us be progressive, but let us *think* at all times.

—G. S. B.

News and Comments

APPOINTMENT OF DR. A. R. McMAHAN AS MEDICAL DIRECTOR

Dr. A. R. McMahan has been appointed medical director of the Columbian Mutual Life Insurance Company to succeed Dr. J. L. Andrews, who was vice-president and medical director at the time of his untimely passing on January 10, 1943.

Dr. McMahan has been a resident of Memphis for more than thirty years. He graduated from Rush Medical College (University of Chicago) in 1908. He served two years' internship at Cook County Hospital in Chicago, 1908-1910. He has practiced in Memphis for more than thirty years.

DR. SPECK APPOINTED

Dr. C. M. Speck, Superintendent of the Mississippi State Hospital, Whitfield, Mississippi, has recently been appointed Associate Professor of Psychiatry, Medical Department, University of Mississippi.

In a talk last month to the University student body, among other things, he had this to say about the treatment and cure of mental illnesses: "Psychiatry is at least twenty-five years behind general medicine and surgery. This is due to several factors; First, the generally accepted idea of the public that once mentally ill, always mentally ill. Relatives of patients assume a fatalistic idea in regard to them. Second, there is a lack of interest by our public officials and representatives of our law-making bodies." "State Hospitals," Dr. Speck said, "as run, is the purest form of state medicine, controlled and maintained by the state; and the policies in these hospitals are more or less of political nature. Our so-called economy blocks think only of short-sighted savings in appropriations. They are not mindful of the fact that a long-range economy pays in the long run, preserving human life and restoring human minds, so that the patient may become a producer rather than a ward of the state, often from twenty to forty years, death finally relieving the state of this ward. Many of these patients can be cured; many can reach a mental level where they can function on the outside in society and in certain environments. This is the method whereby the congested conditions of the state hospitals can be relieved, where no buildings will have to be built to take care of more patients, if the hospitals are run as hospitals should be run—as a curative agency, rather than by custodial care. Third, our medical schools have not realized the importance in stressing this important branch of medicine. Very few schools have adequate facilities for teaching mental diseases. Fourth, politics, and a change of personnel often occur which disturb the efficiency of these institutions. When politics enters the doors of these institutions, medical efficiency goes out the window, even the efficiency of custodial care. Who can run a hospital on 44 cents per day per patient? General hospital average cost runs as high as from four to five dollars per day. T. B. sanatoriums run almost as high. And it is the purest nonsense to think that you can run a curative agency, such as a state hospital, on the meager sum of 44 cents per day per patient. The percentage of cures in state hospitals for the mentally sick will run as high as that of the T. B. hospitals over the country."

CONTINUATION FOR DURATION URGED FOR MEDICAL SESSIONS

Speaking before a meeting of the Richmond Academy of Medicine in January, C. P. Loranz, of Birmingham, Ala., secretary and general manager of the Southern Medical Association, said that the association is strongly opposed to the "freezing" of activities of medical societies for the duration of the war, as has been advocated by various doctors.

"We feel, in our organization, that medical meetings should continue—perhaps with even greater emphasis—throughout the duration of the war," Mr. Loranz said. "Medical science is such an active science, with its methods continually changing for the better, that the process of continuing development through local, state, regional and national meetings and conventions should not be hindered simply because there is a war on. The process should be encouraged rather than retarded."

In his address, Mr. Loranz expressed the appreciation of officials and members of the SMA to the Richmond Academy for their hospitality and for the fine program arranged for the annual convention held there last November, at which time the local group was host to the Southern Medical Association.

APPROVES CONTINUATION OF MEETING

Dr. J. S. Ullman,
Natchez, Miss.

Dear Doctor,

You had a letter in the last issue of the *Mississippi Doctor* stating that you had conferred with past and present officials and that the sentiment of the Council is to postpone the next session of the Mississippi State Medical Association. I do not know just whom you have written, but you did not send a letter to me. I will also take the authority to state that I know the Council well enough that they will not pop off unofficially.

I represent the third councilor district which takes in the thirteen northeast counties. Up here we are loyal and interested members of the state association, we realize that we are at war, and we are aware of the situation that we face, but we are strong for the annual meeting and we will be well represented at the next meeting.

I'll warrant that if you poll our members that are in the armed service, they will tell you not to lie down on the home front. There is much for the association to do to hold up the banner and if you are aware of recent happenings you can see that this will probably be one of the most important meetings that we have had or will ever have.

Personally, I am in favor of only a two-day program.

I am not giving this statement as criticism but only to tell you that your poll was not complete, and also that in this district we are still loyal and interested in our association and, to put it strong, we really *love* it.

I am

Yours truly,
R. B. Caldwell, M.D.
Councilor, Third District

SUCCEEDS DR. WALKER

Dr. Joseph E. Wheeler, formerly chief medical officer of the Veterans Administration Hospital in Togus, Maine, has taken over his duties at the Veterans Hospital, Memphis, Tenn., as clinical director, succeeding Dr. L. A. Walker.

Dr. Wheeler is a native of Meridian, Miss., and a graduate of the University of Tennessee Medical College.

THE INDUSTRIAL FRONT

Three hundred and fifty million work days lost annually through illness of the gainfully employed is our country's discreditable record. At a wage of five dollars a day this means a $1,750,000,000 yearly deficit in labor and production. Assuming that half of this is due to preventable disease we could build a dozen battleships in the time saved by full use of known preventive measures.

In working days lost per case, tuberculosis heads the list of unnecessary disabilities. This national loss is not due alone to doctors, nor the public health service, nor the ignorance and carelessness of the people themselves. The blame belongs to all three. The fervor of patriotism sweeping the country keeps our eyes fixed overseas. We are united in the will to annihilate despotism and reëstablish freedom for all nations. This is our duty, but we must not forget the treacherous enemy within our own boundaries. Tuberculosis, in collusion with its fellow fifth columnists, is impeding victory by a campaign of sabotage behind the lines.

The armed forces have foreseen the menace of tuberculosis in the ranks and are taking active measures to combat it. Industry has awakened to the threat but is still foundering in its effort to thwart it. The medical profession is only half alive to its opportunities for patriotic service. Right now is the moment to stand by the men who make the guns in an all-out fight to eradicate this leading saboteur of victory.

Kendall Emerson, M.D.,
Journal Lancet, April, 1942
From National Tuberculosis Association

DR. BUSCH APPOINTED TO RED CROSS POST

John F. Busch, M.D., has been appointed director of Medical and Health Service for the Eastern Area of the American Red Cross with headquarters in Alexandria, Virginia. Mississippi is included in this area.

Following general practice in Spartanburg, South Carolina, Dr. Busch has engaged in tuberculosis control work. He comes to the American Red Cross from the Georgia State Department of Public Health where since 1937 he has been associated with the Division of Tuberculosis Control.

It is important that sound and constructive relationship be maintained between the American Red Cross and the medical profession in the several states. Dr. Busch's clinical background and viewpoint will promote such relationships.

ANNOUNCEMENT

Refresher course in laryngology, rhinology and otology March 22 to 27, inclusive, 1943. University of Illinois College of Medicine.

To meet the needs of ear, nose and throat specialists who, under existing conditions, are able to devote only a brief period to postgraduate review study, this didactic and clinical course has been arranged. Registration is limited. The fee for the complete course is $50.00. In letter requesting application for registration, state school and year of graduation, also details concerning specialty training and experience.

Address Department of Oto-Laryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago, Illinois.

SCHEDULE FOR TWENTY WAR SESSIONS ANNOUNCED BY AMERICAN COLLEGE OF SURGEONS

New developments in military and civilian medical and hospital service will be brought to members of the medical profession at large, and hospital representatives, through a series of twenty war sessions, beginning March 1, to be held throughout the United States under the sponsorship of the American College of Surgeons with the coöperation of other medical organizations and of the several medical services.

Each war session will consist of an all-day program, lasting from 9:00 o'clock A. M. to 10:00 P. M., including luncheon and dinner conferences. There will be eight meetings in each session, four of which will be for the entire assembly, and the remainder divided into two meetings each for physicians and for hospital representatives. Subjects will be similar in the different places but some of the speakers will be changed in the different states and service commands. Nationally known representatives of the United States Army, the United States Navy, the United States Office of Civilian Defense, the United States Procurement and Assignment Service, and the United States Public Health Service, will address the meetings and will lead discussions, in addition to participation by prominent leaders in civilian medical practice and hospital service.

The schedule for the war sessions for the Mid-South territory is as follows:

Wednesday, March 24, Birmingham, for Alabama, Florida, Georgia, at Tutwiler Hotel.

Friday, March 26, Memphis, for Tennessee, Arkansas, Mississisip, at Peabody Hotel.

Monday, March 29, Houston, for Texas, Louisiana, at Rice Hotel.

Thursday, April 1, Kansas City, for Kansas, Missouri, Okhahoma, at President Hotel.

Deaths

DR. B. T. ROBINSON

Dr. B. T. Robinson, 64, died of cerebral hemorrhage at his home in New Augusta early in December. He was born in Vosburg, Miss., received his medical education at Tulane University, New Orleans, La., graduating in 1906.

Dr. Robinson was director of the Perry County Health Department, 1926 to 1932, part-time health officer in Perry County, 1932 to 1938. He was president of the South Mississippi Medical Society in 1940.

DR. H. S. TUCKER

Funeral rites were held for Dr. H. S. Tucker, 88 years of age, the oldest practitioner in Mississippi, who died at his home in Laurel after a brief illness.

The Rev. D. T. Ridgway, pastor of Kingston Methodist Church, in which Dr. Tucker was a steward, and Dr. G. L. Tucker, pastor of the First Presbyterian Church, conducted the service.

Dr. Tucker was born in Okolona, Miss., came to Laurel in 1918 with his family, after living in Ellisville for twenty years. He was educated at Louisville Medical School, and at Tulane, taking his degree there in 1887.

DR. J. C. RUSH

Dr. J. C. Rush, prominent Waynesboro physician, died Nov. 23 in a Meridian hospital following an illness of some duration. He was 76 years of age.

Dr. Rush was born in Kemper County, and was a graduate of the Louisville Medical College. He was married to Miss Sally Hunnicutt, of Oak Grove, Miss., and in 1898, with his wife and two small children he moved to Waynesboro to practice his profession.

In 1908 he was married to Mrs. Mary F. Pitts. Brothers and sisters surviving are: Dr. Gus Rush, Roy and Vernon, of Meridian; O. C., of St. Petersburg, Fla.; Mrs. Ella Mosby and Mrs. J. R. Hunnicutt, of Meridian, and Mrs. Stanton Osteen, of Tampa, Fla.

Dr. Rush was part-time health officer of Wayne County, and at one time president of the Wayne County Medical Society.

DR. C. H. HERBERT

Dr. Christopher Henry Herbert, pioneer physician and druggist of Jackson, died at the Jackson Infirmary shortly before noon January 13. He had been in poor health for some time.

Born in Jackson in 1866, Dr. Herbert became an apprentice druggist at the age of 13. Before going into business for himself he was connected with Dr. W. W. Harrington and Dr. J. F. Hunter, both of whom succeeded him in death.

Dr. Herbert served on one of the first boards of aldermen of the city, and during his medical course at Tulane University served on the board of trustees of the old Mississippi State Hospital for the Insane. He graduated from Tulane in 1904.

Surviving Dr. Herbert are two children, Mrs. A. W. Magruder, 190 Ridge drive, and Ernest Herbert, 825 Harding, who succeeded his father in business at Herbert's drug store.

DR. G. J. MANCILL

Dr. G. J. Mancill died in a Greenville hospital at the age of 54, after an illness of several weeks.

He was born in Chickasaw County. He attended Vanderbilt School of Pharmacy, and then transferred to the Memphis Medical College and received his M.D. degree. He went to Indianola to practice his profession in 1913, and entered World War I as a first lieutenant in the medical corps and served for only a few months until he was given a medical discharge.

Returning to Indianola to resume his practice, he married Miss Daisy Wells, Union, Miss., in 1921, who survives him, as do the following children: Miss Dorothy Rose Mancill, G. J. Mancill, Jr., both students at Ole Miss, and Bobbie Mancill, a student at Indianola; his mother, Mrs. T. J. Mancill, Indianola; a sister, Mrs. Chas. J. Cargile, Tuscaloosa, Ala., and a brother, O. N. Mancill, West Point, Miss.

At the time of his death he was examining physician for Sunflower County Selective Service board and chairman of the county infantile paralysis foundation.

DR. J. R. PRIEST

Dr. James Robert Priest, for twenty years practicing physician at Houston, died at his residence Dec. 5, from a heart attack.

Dr. Priest was born at Dedland, Pontotoc County, where his parents were pioneer settlers. He was a graduate of Memphis University of Medicine and attended the Polyclinic Institute in New York for one year, after which he located in Pittsboro, later moving to Van Vleet. A year before coming to Houston he did postgraduate work in New Orleans.

In 1911 he was married to Miss Lorena McIntosh of Houston. He was a member of the Methodist church, also a member of the Northeast Mississippi Thirteen Counties Medical Society, Mississippi State Medical Association, and American Medical Association.

Besides his widow, he is survived by two sons, Dr. J. R. Priest, Jr., of Waynesboro, and Mac of Houston, seven sisters and three brothers.

Book Reviews

FRACTURES, by Paul B. Magnuson, M.D., F.A.C.S., Assoc. Professor of Surgery, Northwestern University Medical School. Fourth Edition, revised, 317 illustrations. Published by J. B. Lippincott Company, Philadelphia, Pa. Price $5.50.

This book on fractures, in a revised fourth edition, clearly fulfills the author's object in trying to advance information which will make simpler and easier the treatment of fractures, and improve end results. The fundamentals of treatment are given, that the surgeon might work out the details of treatment. All methods for fracture reduction and fixation are not included, but all that are presented will work in the hands of the practitioner, or are so clearly described that the practitioner can use better judgment in handling the extraordinary case before it reaches the specialist. And because of the war, important additions have been included for first aid, treatment of wounds, débridement of wounds, the use of sulfotherapy and the treatment of shock.

Dr. Magnuson belongs to the group of men in medical practice who treat and recognize the individual in their treatment. He emphasizes that the fracture can be treated for the best end result only as an injury to the body as a whole. His division of fractures into classes and clearly defined nomenclature aids. And his detailed attention to physiology and anatomy along with frequent use of illustrations and x-ray plates, provides the practitioner and the surgeon with a clear text and guide. For fracture study, Dr. Magnuson's book is hard to beat.

ESSENTIALS OF GYNECOLOGY, by Williard R. Cooke, M.D., F.A.C.S., Professor and Head of the Department of Obstetrics and Gynecology, University of Texas. Published by J. B. Lippincott Company, Philadelphia, Pa, 474 pp. 197 illustrations, including 10 in color. Price $6.50.

Remove gynecological patients from the general practitioner's practice, and he would be relieved of the major part of it. Perhaps one reason such a large number of women patients become chronics, their physicians have not the insight and understanding of woman personality and psychology which Dr. Cooke stresses. Indeed, says the author, "a very small percentage (of doctors) combine the scientific approach from the standpoint of pelvic pathology with a study of the patient's general condition . . . her personality and psychology. Ninety-five per cent of the *intensity* of human suffering is mental, and many physiologic disturbances are of purely psychic origin. . ." In a chapter on history-taking, he opines, "It is a very good plan for the practitioner of gynecology . . . to approach all of his problems from the pelvic standpoint last of all, in order that he may not overlook conditions outside the pelvis."

This book is the work of a teacher-practitioner who has the advantage of having mined the essentials from clinical experience. His method is clear, quick and as concise for use by the student as by the general practitioner. His methods are something more important still. Because he believes intelligent judgment relies mainly on microscopic pathology in dealing with anomalies, lesions, inflammatory diseases and neoplasms, etc., he gives a vast amount of space to illustrative material. And in presenting operative techniques he concisely discusses the procedures in classroom step-by-step manner.

Probably no more sound presentation of the mundamentals fitted into the whole gynecological picture has been written.

SYNOPSIS OF PATHOLOGY, by W. A. D. Anderson, M.A., M.D., Assistant Professor of Pathology, St. Louis University School of Medicine.

This is another of the valuable series of synopses published by C. V. Mosby Company. All bound alike, prepared for concise coverage of the subject treated, these books meet a specific need in the busy doctor's day.

Synopsis of Pathology does an exceptionally good job for presenting the broad base of essential information which a study of modern pathology requires. The author appreciates the value of a reference book that is not too burdened with details, yet includes the essentials. He lists a few references at the end of each chapter for the man who would pursue the subject further. There are 294 illustrations and several color plates which clarify the text.

The author's chapters on bacterial infection,

(Continued on page 429)

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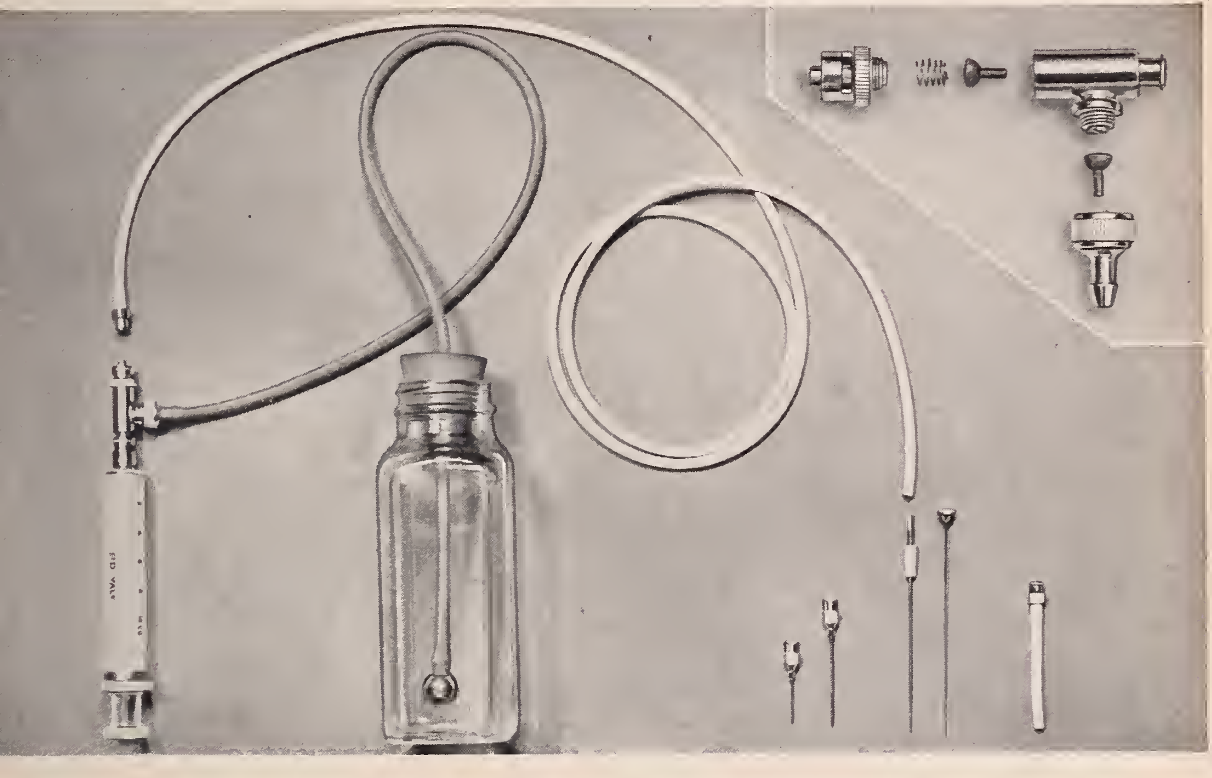

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COMPONENT SOCIETIES

County Society	President	Secretary	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p.m.
Alcorn	Dr. J. R. Hill	Dr. William David May	Third Friday 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central	R. B. Austin, Forest	J. G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne	W. N. Jenkins, Port Gibson	G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Lambert	G. R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	J. C. Runell, Jr., Cleveland	Sec. Wed. April & Oct., 2 p.m.
Desoto	C. W. Emerson, Hernando	L. L. Minor, Rt. 4, Memphis	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Philadelphia	N. C. Knight, Meridian	Quarterly
Franklin	Linfield Costley, Meadville	R. Costly, Meadville	
Issa-Shar-War.	H. H. Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	B. R. Clark, Lorman	W. T. Harper, Fayette	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	J. C. Culley, Oxford	A. H. Little, Oxford	3rd Wed., Jan., April, July, Oct.
Northeast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mar., June, Sep., Dec.
Pike	W. F. Cotten, McComb	W. F. Cotten, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Mississippi	H. G. Cook, Hattiesburg	J. P. Culpepper, Hattiesburg	3rd Tues., Mar., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	M. M. Powell, Jr., Coldwater	Second Wednesday
Tri-County	J. C. McGuire, Hazelhurst	R. B. Zeller, Hazelhurst	
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazelhurst	Sec. Tue., Mar., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Field, Centreville	R. J. Field, Centreville	
Winona District	Edgar Giles, Avalon	S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

"PROLONGED USE OF A SULFONAMIDE COMPOUND IN PREVENTION OF RHEUMATIC RECRUDESCENCES IN CHILDREN"—Arid E. Hansen, Ralph V. Platou, and Paul E. Dwain, Minneapolis, Minnesota.—American Journal of Diseases of Children, 963:976, (December) 1942.

The authors say that "early attempts by us to use sulfanilamide as a prophylactic agent in rheumatic fever were discontinued because of the fear of provoking toxic manifestations of the then new drug. The encouraging results obtained by Coburn and Moore and Thomas and France, however, prompted us to resume this study. Our special purpose was to follow the course of the disease in a group of patients made up entirely of children wherein the control and the sulfanilamide-treated subjects were as nearly as possible comparable and yet under more or less uncontrolled conditions which closely approximated those encountered in the private practice of medicine.

A sulfonamide compound (sulfanilamide or, in a few instances, sulfathiazole or sulfadiazine) was administered to 53 different children for a total of 78 season-cases to determine their value in preventing the occurrence of active rheumatic cycles, and the results were compared with those observed in 32 control children followed for a total of 46 season-cases. All children studied were between 3 and 16 years of age and had had essentially similar histories as regards previous rheumatic episodes, degree of cardiac involvement and social status. These children were observed under conditions which approximate those encountered in the private practice of medicine. Only 2 of the 53 children in the group treated with a sulfonamide compound experienced a rheumatic flare-up, and in 1 this occurred within six days after the use of the drug was begun.

On the other hand, 17 of the 32 children in the control group had a total of 21 rheumatic recrudescences. Eight of these recurrences were considered moderately severe; 7 were mild, and in 6 of the subjects attacks of chorea were noted. In addition, the treated patients seemed favorably affected as regards the trend in degree of cardiac involvement, size of the heart and functional classification. No difference was noted in the number of infections of the upper respiratory tract in the two groups, whereas the treated patients gained as well as the patients in the control group and from a clinical viewpoint tended to be in better condition. Toxic manifestations due to the drug and disturbances in blood cells were seldom encountered, although during the fourth seasons the use of sulfathiazole was discontinued for 1 patient when the number of leukocytes dropped to 1,700. Improvement in electrocardiographic tracings, though suggestive in several instances, could not be attributed to the effects of the drug alone. There was no evidence that the sulfonamide compounds used produced changes in the electrocardiograms which have been interpreted as being deleterious.

Although this series of cases is relatively small, the results are consistent and when interpreted in the light of observations of other investigators on this subject appear to justify further study of the practical value of sulfonamide compounds in preventing rheumatic recrudescences. This appears to be especially true when we are aware that this disease is one of the major causes of disability and death in children of school age in the temperate zone. Caution should be the rule, and each child so treated should be under the care of a scrutinizing physician at all times.

COMMENT

There have been many attempts at treatment of rheumatic heart disease in children by practically all of the drugs known to the medical profession including all of the compounds of the sulfonamides. The article reveals quite an extensive study of the use of the drug more as a prevention of recurrent attacks than as the treatment of the actual condition itself. Having had quite a great deal of experience in rheumatic heart disease in children and particularly with this drug in the preventive field, I am convinced that there is some merit to the use of the drug in such cases as enumerated in this article.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH IN WARTIME

July-Dec., 1942

(Continued from January)

Sanitary Engineering

Activities during recent months have been almost entirely those devoted to wartime sanitation. No other division has had more intimate contact with the increased public health problems resulting from the wartime activities of this state. This situation is true of all the main phases of environmental sanitation carried on, according to H. A. Kroeze, director of the Division of Sanitary Engineering.

The continued construction of Army, Navy, and war industries establishments in the state has called for much work of the water and sewage section in assisting Army and Navy engineers in solving water supply and sewage disposal problems at these establishments. The increasing population of the surrounding communities has made it necessary to lend much assistance in the matter of securing finances and priorities to enlarge water and sewerage facilities to take care of the increased loads on such utilities. Water supplies of two communities failed during this period and one other was jeopardized as a result of Army activities adjacent to the community. Emergency chlorinators, owned by the division, were installed on these supplies properly to sterilize the emergency supplies that had to be used until safe, adequate supplies could be restored.

Due to the large military population of the state, there has developed an acute milk shortage of high grade milk for both civilian and military needs. As a result it has been necessary to resort to inferior raw milk supplies. This has called for an increase in the supervision of the pasteurization process to insure a safe milk for all purposes. Much time has been spent assisting military authorities in securing the best milk possible and in developing added pasteurization plants to handle the increased demand. All of this will be beneficial ultimately to the civilian population after the war in that there is developing a more widespread dairy and milk plant improvement throughout the state.

In coöperation with the United States Public Health Service there has been set up a malaria control adjacent to war areas. This work at present is being carried on at Pascagoula, Biloxi, Gulfport, Hattiesburg, McLaurin, Meridian, Jackson, Flora, Madison, Greenville, Clarksdale, Columbus, Greenwood, Centreville, Grenada, Aberdeen, Prairie, and Laurel. This program consists of drainage, filling, and larviciding for malaria mosquito control in areas one mile wide around war establishments and in cities which are frequented by large numbers of troops.

Malaria control drainage in civilian areas in coöperation with the Work Projects Administration has been continued though on a reduced scope. From July through October last year, 20,366 lineal feet of permanently lined ditches were constructed under this program.

The community sanitation program of privy construction in coöperation with the Work Projects Administration was continued during 1942. A total of 4,754 privies were constructed during the five months ending November 30. The Federal Works Agency has ruled that community sanitation projects are eligible for grants-in-aid in areas surrounding military establishments. The division has already secured a grant of $35,262 for such work in the vicinity of Gulfport, and has submitted similar projects for the Biloxi and Pascagoula areas. Projects for other war areas will be submitted as fast as time and personnel will permit.

The activities of the division has been considerably handicapped by the loss of three engineers since last June, none of whom have yet been replaced. Furthermore, since most sanitation accomplishments require the use of critical materials, the members of the staff have shown considerable ingenuity in devising substitute materials using the minimum of metals in order to continue to improve environment sanitation as much as possible under wartime conditions.

FIELD UNIT

If public health is to flourish in wartime as it has in the past few years, there will have to be a redoubling of efforts for the cause by all public health workers with increased coöperation from laymen, points out Dr. H. B. Cottrell, supervisor of the Field Unit. The Field Unit has lost a number of its most valued members to the armed services.

Only one new county began operation during this period. Wilkinson County, with its military camp and all the attendant needs, has required a great deal of assistance and supervision from the entire unit.

The Field Unit has completed its tenth year of service as an advisory organization functioning in all of the full-time county health departments in the state. A full report of its activities during this period is now in process of preparation.

No new programs have been instituted during the past few months. With the increased amount of work necessary on account of wartime emergencies it is felt that the first duty of the Field Unit and all public health agencies is to lend assistance in every way possible in keeping our soldiers and civilians free from disease.

VENEREAL DISEASE CONTROL

Venereal disease has always flourished in wartime. The present war is no exception. To meet this threat the State Board of Health has mobilized all its forces to keep venereal disease down, reports Dr. Paul T. Erickson, supervisor, Venereal Disease Control.

Having already provided clinic and treatment facilities through local county health departments where venereal disease cases can be treated, rendered noninfectious and incapable of spreading the infection, during the last half of 1942 another important objective of venereal disease control has been stressed. That objective is to secure a decrease in contacts between healthy individuals and those infected with venereal disease.

Of great assistance in working toward the above-mentioned objective has been the action taken by the last legislature in providing a model law against commercialized prostitution. The State Board of Health in all war and industrial areas of Mississippi has coöperated closely with local health departments, local officials, the police, the Army and Navy, Federal Bureau of Investigation, the Division of Social Protection of the Federal Security Agency, and the United States Public Health Service in popularizing repression of prostitution as an aid in the control of the venereal diseases.

Decreased venereal disease rates in service men reported by various military areas evidence good response and results from this program. One military camp reports the following remarkable decrease in its monthly venereal disease rate: May, 106.4; June, 58.5; July, 53.0; August, 52.0; September, 37.5; and October, 19.9. (Rates quoted indicate number of cases developed per 1,000 men per year.)

Decreasing contact between healthy individuals and those infected with venereal disease also involves continued and intelligent search for infectious venereal disease cases. To this end 36 special lay investigators have been trained since July and assigned to health departments in the most critical areas. At the present time 49 of such workers are on duty. Encouraging reports are coming to us as a result of their activities. This new type of health worker came as a result of shortage of public health nurses and the increasing need for follow-up work on cases and contacts. It now appears that such workers may make for themselves a permanent place in the public health field.

Isolation is a well-known control measure for infectious or contagious disease. Because of the lack of isolation facilities this measure has not been very generally used for venereal disease control. Now it appears that such facilities are within reach. The War Public Works Agency under the Lanham Acts has proposed to furnish funds for maintenance and operation of such facilities as the state undertakes to operate. Applications have been drawn up and submitted for federal funds for the maintenance and operation of three such centers in Mississippi. Two of these have already received Federal approval and will be placed in operation as soon as the necessary priority ratings on materials are approved by the War Production Board.

LIBRARY

The public health problems of war time have been reflected largely in reader interests in the library during recent months. Particularly noted was the attention given tropical diseases, especially those presenting—or likely to present—hazards in cantonment areas or among large groups of the civilian population. Malaria, typhus fever, bacillary dysentery, undulant fever, various diseases due to intestinal parasites, and communicable diseases were among the subjects in which much interest was manifested. Industrial hygiene, school health, venereal disease control, nutrition and maternal and child health also continued to receive considerable attention.

The value of the Library's collection was strengthened through the addition of a number of useful volumes. Accessioned since June 1, 1942 were the following:

Books (by purchase)	140
Books (by gift)	42
Reports (by gift)	29
Volumes of periodicals bound	149
Total	360

Also added were 251 miscellaneous members of periodicals, donated by local physicians and dentists and 313 numbers received through the Medical Library Association Exchange. These enabled the Library to complete many volumes, useful for reference.

A very useful, classified, compilation of books received in the Library during the past year was prepared and circulated in order to acquaint health workers, physicians, dentists and others with the content of the collection and to facilitate making selections of books which they might desire to cover. The extent of future contributions which the Library may make to public health depends in large measure on the provision of facilities for its continued growth and the full utilization of its resources by those engaged in the various phases of health work.

INDUSTRIAL HYGIENE AND FACTORY INSPECTION

Dr. J. W. Dugger, director of the Division of Industrial Hygiene, reports that four new factories have been established in the state where women are being employed. Because of the decrease in the number of men available for employment, three factories which had previously employed only men are now employing women. Many of the factories are producing war materials and are increasing their number of female employees.

Routine inspections of the sanitary conditions of the plants have been made and on return visits it has been noted that recommendations made for improvement in the sanitary conditions have been complied with.

A new addition to the personnel of the Division is Dr. Wayne L. Ritter, who has been assigned to Mississippi by the United States Public Health Service to assist in carrying on a more intensive program of Industrial Hygiene and no doubt will establish a helpful program for the industries of the state. It will be good to see the program he inaugurates continued and expanded as the years pass.

The activities of this division are being considerably enlarged to promote the expansion of effective medical and nursing service in industry, and to make detailed engineering and chemical studies in factories. On the basis of exact information gathered by an industrial chemist and a ventilating engineer in these factories, recommendation will be made to their management for the proper control of hazardous or potentially hazardous operations.

With the increase of government contracts calling for the industrial utilization of metals, solvents and gases that are new to local production lines, the need for increasing help in the protection of both management and labor is apparent. Considerable progress is anticipated in this program during 1943 due to the fact that industrial hygiene is coming to the forefront in the war effort and the program is being expanded to include many new phases having to do with the environment of the workers in the factories.

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NATIONAL PRESIDENT TO ATTEND STATE MEETING

February 1, 1943

Dear Auxiliary Members:

The time for our annual State Auxiliary meeting is just around the corner. I was notified today that the State Medical Association will be held in Jackson, May 11-13, with headquarters at the Heidelberg Hotel.

The president of the Woman's Auxiliary to the A.M.A., Mrs. Frank N. Haggard of San Antonio, Texas, has made definite plans to be our guest at the state meeting. I quote from her letter to me:

> "Your reminding me of your coming convention the second week in May makes me realize that there will be still more traveling to be done before my year is over. I promised you months ago that I would attend the Mississippi convention if possible, and that is still my intention because, first of all, I do believe that Mississippi has never had a national president at her convention (I may be wrong about this), but anyway, I am really looking forward to attending your convention."

I attended the national executive board meeting in Chicago on November 20. I enjoyed the lovely contacts and feel that my experience in being there was of valuable benefit. The reports of all officers, state presidents, 19 of whom were present, were informing and inspiring. I quote one paragraph from the president's mid-year report:

"This year we have a three-fold responsibility; first, to maintain our own health; second, to help maintain the health of the community in which we live; and third, to bolster the morale of every individual who happens to come within the scope of our influence. In the present state of total war into which our country has been plunged, the Auxiliary becomes expansively as important as we as individuals make it. Distractions beset the path of every person in the nation. Ours is the task of being continuously aware of the purpose for which it was founded."

The national slogan, instead of being "Health for Defense," is "Health for Victory." You will find a complete report of the mid-year meeting in the December issue of the *Bulletin.* I hope that you who have the *Bulletin* will read its contents, and those who haven't will subscribe to this valuable publication which is so necessary to Auxiliary members, and thus become well-informed members.

All organizations have worked this year under handicaps and great anxiety, but I'm sure you will realize you have accomplished much when you begin to review the past year.

Please begin now to plan to attend the state meeting in Jackson, May 11-13, and let's make the meeting of this hard year the best one.

Sincerely yours,

Mrs. V. B. Philpot,
President, Woman's Auxiliary,
Mississippi State Medical Ass'n.

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Book Reviews

(*Continued from page 421*)

tuberculosis, virus and rickettsial diseases, venereal disease, and vitamin deficiencies are by no means without the pale of practical use for the general practitioner. Other chapters, on the cardiovascular system, disturbances of growth, the kidneys, lungs, gastro-intestinal tract, and glands, etc., might deserve the pathologist's understanding of some pathological conditions and their interpretation. The general practitioner and surgeon will find that Dr. Anderson's excellent synopsis offers in surpassingly clear form the help he needs. The book is indexed, and x-ray plates occur so often, even the most involved processes of disease are a challenging study.

SURGERY OF THE AMBULATORY PATIENT, by L. Kraeer Ferguson, A.B., M.D., F.A.C.S., Assistant Professor of Surgery, University of Pennsylvania; with a section on fractures by Louis Kaplan, A.B., M.D., F.A.C.S., Associate in Surgery, University of Pennsylvania. Price $10.00. J. B. Lippincott Company, Philadelphia. 645 illustrations.

Rare indeed is the book which undertakes to lift the commonplace of minor work to such a plane of helpful importance as Dr. Ferguson's *Surgery of the Ambulatory Patient.* Surgical men are usually too much concerned with the larger field of surgery to appreciate the legionary problems that daily confront the average men in general practice.

After suggesting the most practicable outlay in equipment for the small clinic or office operating room, the author discusses anesthesias, preparation for the operation, dressings, etc. He then proceeds with the handling of specific problems—lesions, wounds, burns, foreign bodies, cysts and tumors. A second part deals with regional surgery, and the last section with the musculoskeletal system.

From the newer technique of opening a boil to the more complicated correction of hallux valgus, Dr. Ferguson has achieved a work of merit and extreme usefulness to the man who does ninety per cent of this type of surgery—the man in general practice. Illustrations clarify his methods, and a direct style provides a clear-cut presentation of the daily surgical conditions seen by general practitioners and younger surgeons. The book, it seems, would be a must for the office library.

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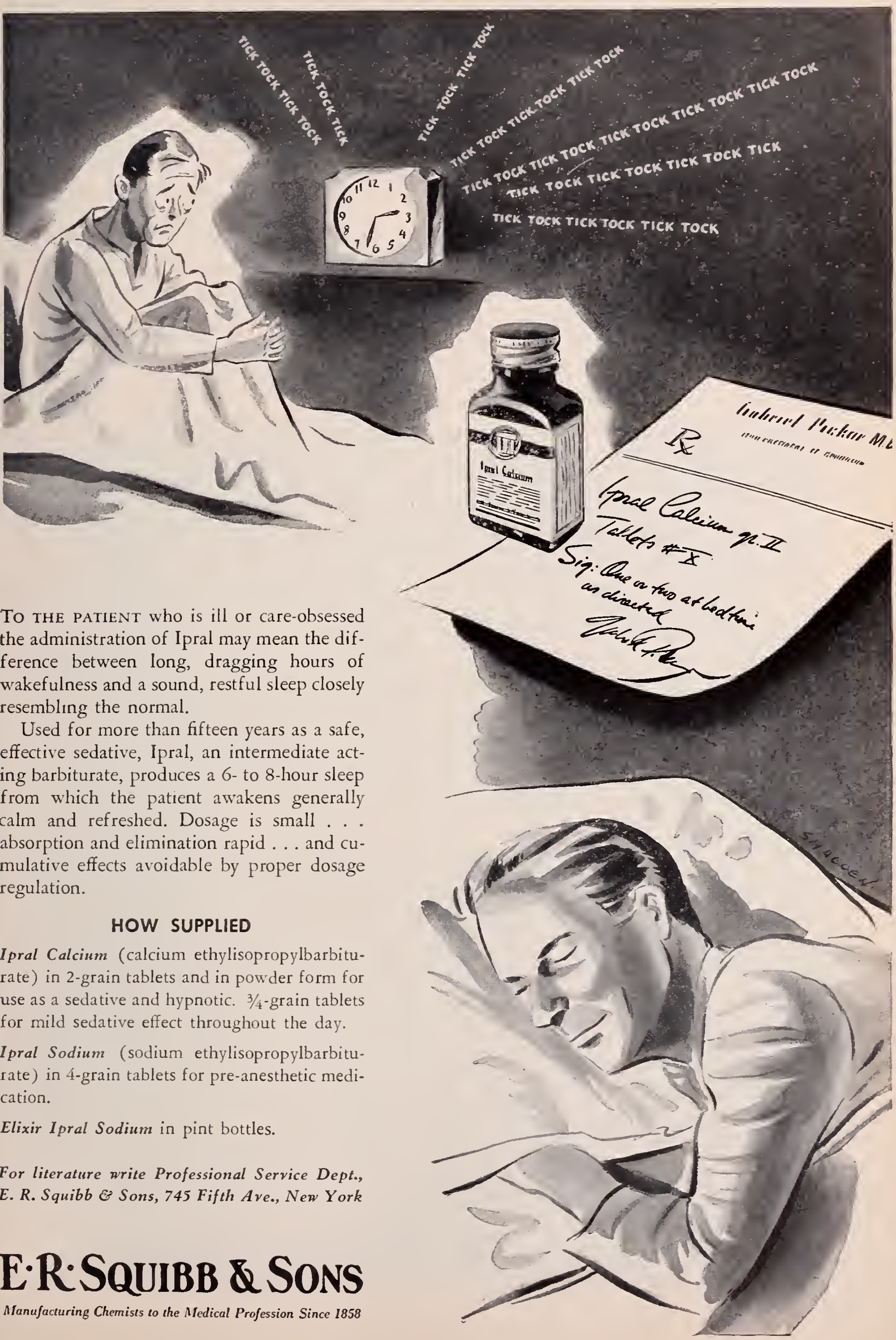
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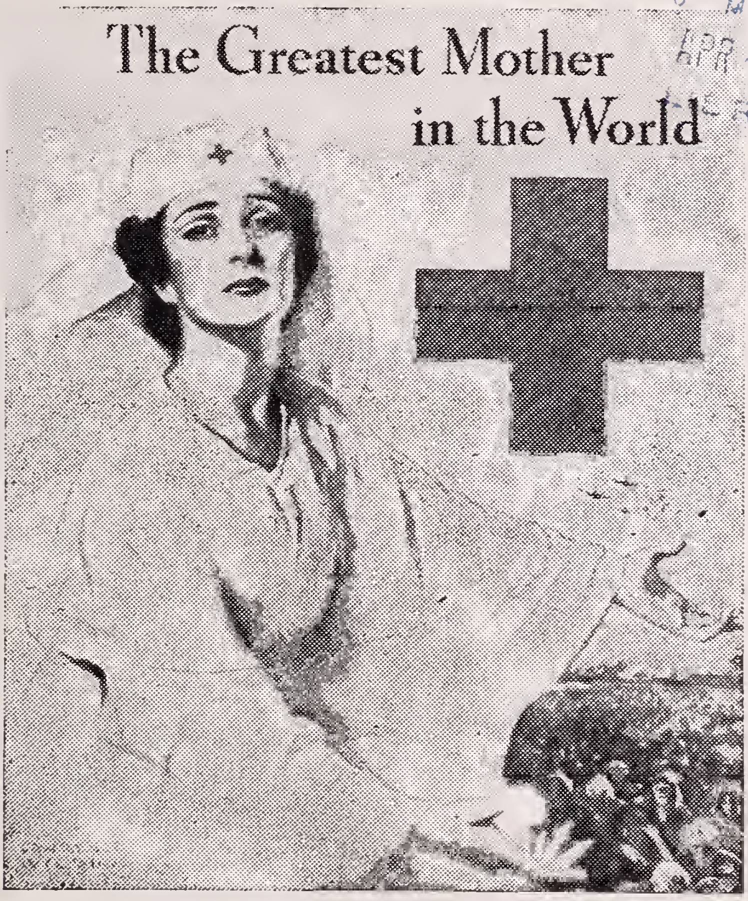

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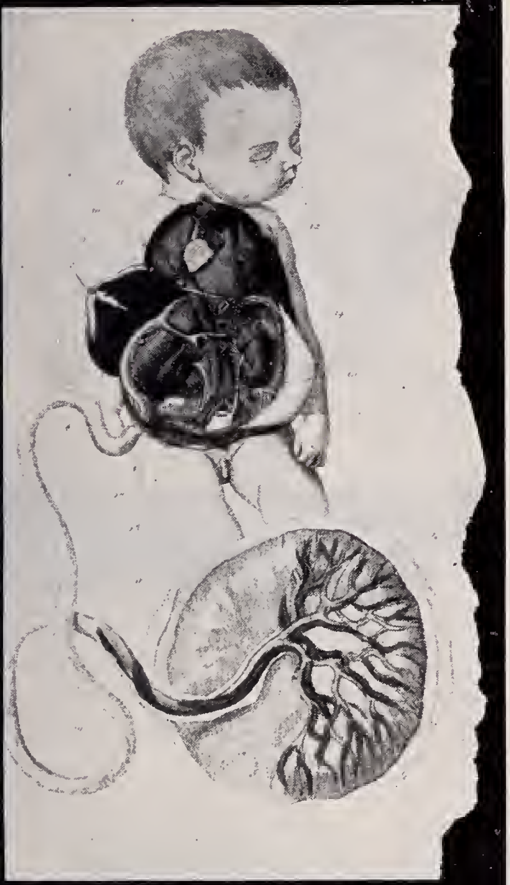

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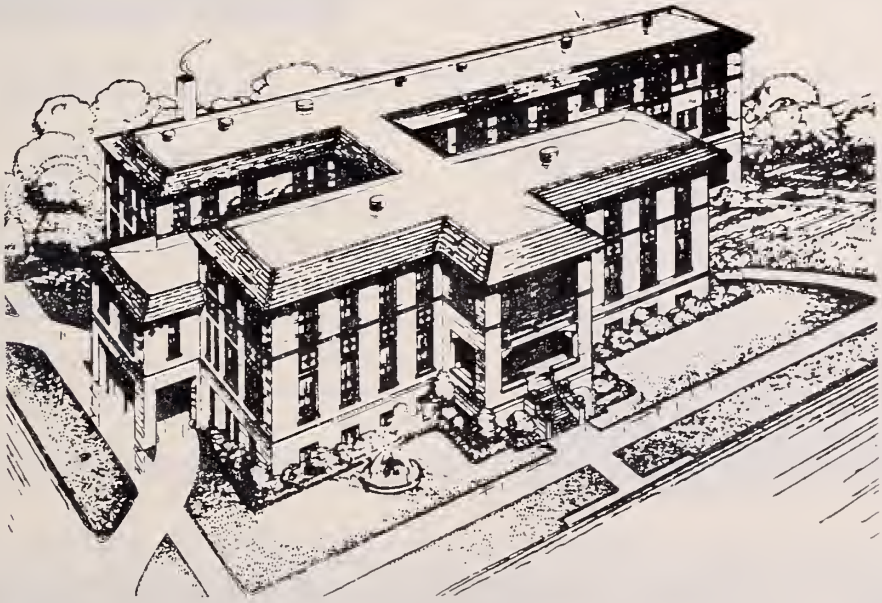

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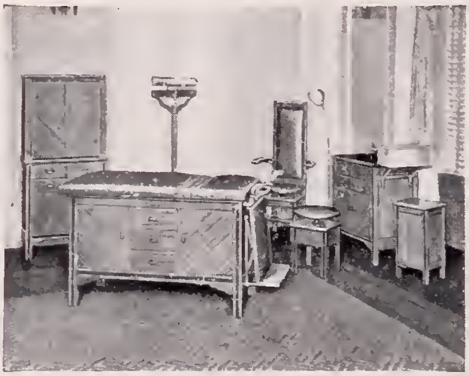

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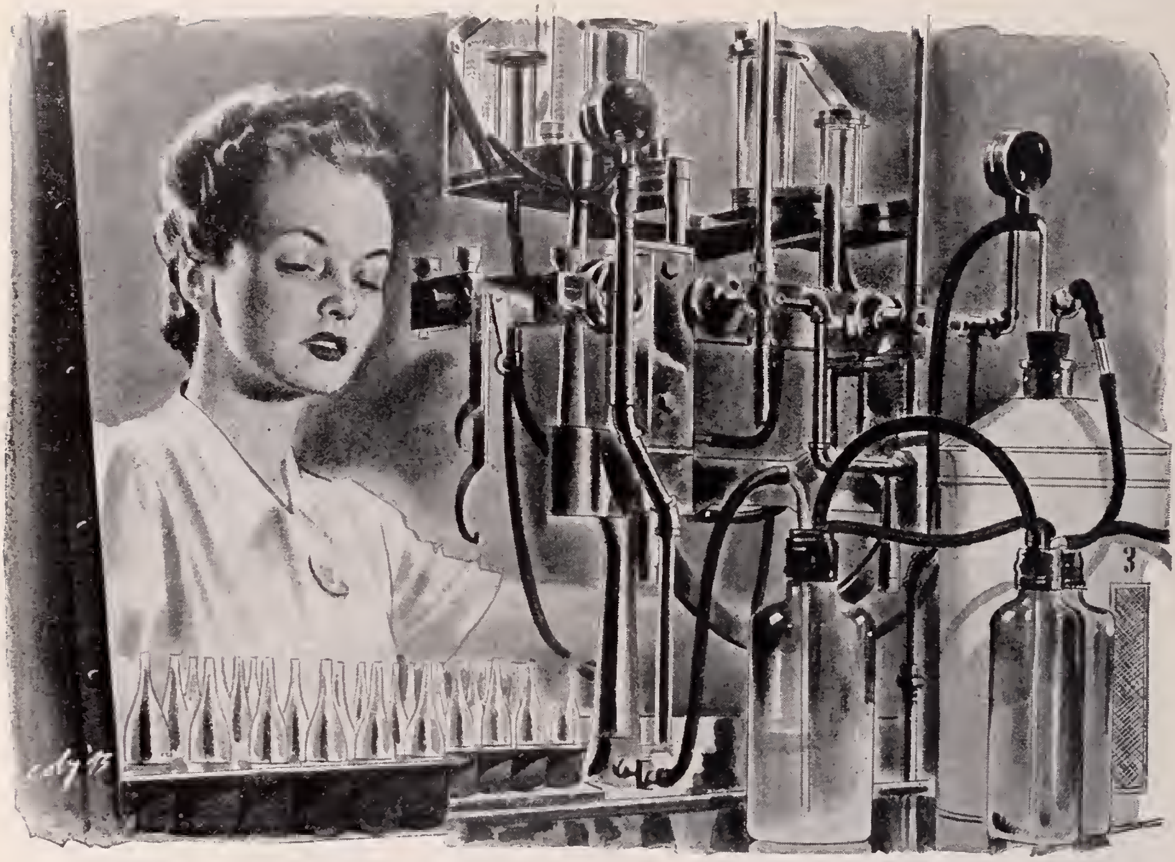

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Reminiscences of Banting, the Discoverer of Insulin[*]

SEALE HARRIS, M.D.
BIRMINGHAM, ALABAMA

I AM DEEPLY gratified for the privilege of addressing the members of the Grenada County Medical Society, the medical officers of Camp McCain and your guests. I feel at home with Mississippi doctors and since I was in uniform for two years during World War I medical officers are congenial company for me.[†]

REMINISCENCES OF BANTING.

The tragic death of Sir Frederick Banting in an airplane crash on February 21, 1941, cut short the career of one of the most dramatic figures in the annals of medicine. In 1921 without previous training in research a young, obscure Canadian doctor had the vision and the courage to attempt to isolate from the pancreas the hormone, called insulin by Schafer in 1910, which Osler, a quarter of a century before its discovery, had predicted would control diabetes when it was discovered. Banting did not rest until he had accomplished that great achievement.

Since I had the privilege of intimate acquaintance with Banting and heard from his lips in private conversation the story of the discovery of insulin, and since in a magazine of large circulation controversial phases of Banting's career have been discussed, it seems appropriate to present some facts which the modest, unassuming man of science would not discuss in public during his life.

My acquaintance with Frederick Banting began in March 1923 when I made a pilgrimage to Toronto to learn the new method of treating diabetes from those who had isolated insulin from the pancreas of animals and had used it successfully in the treatment of human diabetes. Parenthetically, I would add that if a physician desires information regarding any advance in medicine, experience has taught me that he can learn best from those who, because of their clinical or laboratory studies, have contributed most to the knowledge of the subject in which he is interested.

A batch of insulin, called "isletin" by the Toronto group, had been sent me by Eli Lilly and Company two months previously to use in treating diabetics, with the understanding that we were to make blood sugar studies in all our cases and that we were not to report them without submitting our records to the Toronto investigators. The first patient to whom we, my former associate, Dr. J. P. Chapman, and I, had administered insulin was an elderly woman who also had sprue and pernicious anemia. As she had had a number of disagreeable hypoglycemic reactions, we had discontinued the use of insulin, though we believed in the method of treatment. Soon afterwards I had learned from correspondence with my friend, Dr. Bradley Palmer, of Furman, Alabama, who was studying metabolism in Frederick M. Allen's private hospital in Morristown, New Jersey, of a diabetic who had become unconscious and had had convulsions from an overdose of insulin, I then determined on a trip to Toronto, Philadelphia and Morristown to learn what I could about the new method of treating diabetes from those who knew most about it.

I first went to Banting, who, when I came into his laboratory, was performing experiments on dogs. I introduced myself and told him that I had come to Toronto to learn what I could about his experimental work and the use of insulin in the treatment of human diabetes. He was very gracious and cordial to me, saying that he would be pleased to show me everything that he was doing in the laboratory and that the following morning he would be glad to have me accompany him, with Campbell, Fletcher and other clinicians, in making daily rounds in the diabetic wards of the Toronto General Hospital. I found out later that at the time Banting's finances were low, but he invited me to luncheon with him in the Union Building of the University of Toronto. There he introduced me to a number of his confrères who were working with him in experimental and clinical studies with insulin.

---

[*] Delivered by invitation to the Grenada County Medical Society and Medical Officers at Camp McCain, Grenada, Mississippi, February 23, 1943.

[†] The editor felt a reluctance in allowing the author's preliminary reference to remain a part of this address, although he deeply appreciates Dr. Harris' generous and helpful remarks. These paragraphs have therefore been placed under the News and Comment section of this issue.

Banting's Experimental Surgery on Dogs. I remained in Toronto for a week, spending much of my time during each day with Banting in his laboratory and in the diabetic wards of the Toronto General Hospital. I tried not to be obtrusive in any way, and seeing my genuine interest in what he was doing, he explained carefully every phase of the experiments he was making.

It was a pleasing sight to observe the gentleness of Banting in handling his dogs. He talked to them, calling their names, and petted them like they were children. The dogs seemed to have every confidence in him, and he was able to do things with them which would have been impossible had the animals been treated less kindly.

Banting's technic in his surgery on dogs was as good as if he were operating upon a man or woman. I recall an experiment on a very large dog which was made to extract the pancreatic juice, the external secretion, from the pancreas. The abdominal incision was made as carefully and as accurately as I have seen great surgeons make in abdominal operations. Banting seemed to know the anatomy of dogs perfectly and in a few minutes he exposed the animal's pancreas. He placed a cannula in the pancreatic duct and allowed all the juice to escape that would flow out. He resected the duodenum and upper part of the jejunum; after washing out the intestinal contents he scraped the mucosa and made an emulsion containing secretin, which he injected into the dog's veins. In a few minutes more pancreatic juice flowed freely from the cannula. Then he injected huge doses of pilocarpine into the dog's veins, whereupon still more pancreatic juice poured from the pancreatic duct. Altogether he had obtained about two ounces of pancreatic juice in the experiment when the pancreas was removed. The animal suffered no pain during the entire experiment.

The Doctor's Dilemma. It was an interesting coincidence that while Banting and his associates were making experiments on animals that resulted in a discovery literally which has saved, or prolonged, the lives of millions of human beings afflicted with diabetes, Bernard Shaw's idiotic protest against vivisection in his drama called "The Doctor's Dilemma" was being played in Toronto by a company of English players. It was with considerable indignation that I sat through a play in which a literary charlatan endeavored to ridicule and misinterpret the altruistic ideals of the medical profession.

Certainly the use of animals in experimental medicine, called vivisection by ignorant intelligentsia pretenders, was justified by Von Mehring and Minkowski when in 1888 they rendered a dog diabetic by the removal of the pancreas, thus proving the pancreatic origin of the disease. Banting and Best also proved the value of experimental studies on animals when they saved, or prolonged, the lives of diabetic dogs and diabetic human beings by the use of insulin.

Bernard Shaw's drama, "The Doctor's Dilemma," is being played in the United States today, while vivisectionists and societies for the prevention of cruelty to animals continue protesting against the use of animals in experimental medicine. In this land of wise and foolish men who have the right to free speech, no matter how idiotic fanatics' views may seem to sensible people, they must be tolerated; but in the language of Christ, the Great Healer, "Father, forgive them for they know not what they do."

Traveling with Banting. I went from Toronto to Philadelphia to attend the American College of Physicians. Banting was to be a guest speaker at the meeting, and he and I traveled together from Toronto to Philadelphia.

An amusing incident occurred during my visit in Toronto, which illustrates the charming hospitality of the Canadians and which added to the interest on my trip to Philadelphia with Banting. A wealthy manufacturer friend and his lovely wife, whom I had known in Washington, invited me to dinner in their home. Shortly before the end of a delightful evening my hostess said to her husband, "I wonder if we can not persuade Dr. Harris to take a bottle of Canadian Club whiskey home with him." It was during prohibition days in Canada and the United States; and though I am a total abstainer, it did not require any persuasion to induce me to accept whiskey. My host, in presenting the quart of whiskey to me, said, "Dr. Harris, you are from the South and are not accustomed to walking on ice-covered streets, and to show you how valuable we think this preprohibition whiskey is, I will tell you of an accident to one of my friends, who had a bottle in his hip pocket. He slipped and fell on an ice-covered street. As he arose, he felt something warm trickling down the back of his thigh and leg; he exclaimed, 'I hope to God it's blood'!"

I was careful in walking to my cab and had the full quart several days later when Banting and I boarded the train to Toronto. During the evening Banting had several drinks of the precious golden liquid. In the several hours before we retired on the sleeper that night, he told me a number of incidents which had occurred during his turbulent career while he and "Charlie," as he affectionately called Best, were working out the problems connected with the isolation and purifying of insulin so that it could be used clinically. Some things, which he told me in confidence, will never be divulged because I believe he would not want them published; but his story of the discovery of insulin will be narrated as he told it to me during the course of many conversations. Most of the facts that I shall present have been verified in a number of articles published by Banting and his friends during his life.

BANTING AT THE AMERICAN COLLEGE OF PHYSICIANS. On our arrival in Philadelphia the hotel was so crowded that Banting and I occupied the same room during the meeting. It was the first medical gathering in the United States that he had attended and it was my privilege to introduce him to many distinguished American physicians. It was interesting to observe Banting's shyness and modesty in meeting men whom he said he had known of from their contributions to medical literature. He felt it a great privilege to meet them and was somewhat awed in the presence of great clinicians like Lewellys F. Barker and Alfred Stengel. Banting, however, was the "observed of all observers" at the college though he seemed entirely unaware of the fact that he was anything but an obscure Canadian doctor in the presence of the great teachers of medicine.

It was the first time Banting had talked to any large gathering of physicians and he became frightened when he thought of addressing that great audience. As the time approached for his address, he said he knew that he would fail. A few minutes before he was to speak, he went out of the auditorium and motioned to me to follow him. We went to our room, and he took two drinks of my precious Canadian Club whiskey. They seemed to remove all his inhibitions for he made a very creditable talk that was received with enthusiasm by an audience which included many of the leading clinicians in the United States. Following his talk he had to have another drink before he recovered completely from his stage fright. Banting did not drink to excess, since in three days he had consumed only a pint of my historic whiskey. I may add that I did not touch a drop of it, for the reason that I enjoy life more when I abstain from the use of all alcoholic beverages. What happened to the other pint of that precious Canadian Club whiskey is another good story not connected with Banting.

BANTING'S EARLY LIFE. Frederick Grant Banting was born in Alliston, Ontario, Canada, November 14, 1892. He attended the Alliston public schools, Victoria College for two years and the University of Toronto for five years. When he was twenty-one in 1912, he entered the Medical Department of the University of Toronto. Banting wanted to fight the Germans in World War I; and in 1915 he left college after three years' study of medicine to enlist in the Canadian army as a private, but was ordered back to the University of Toronto to complete his medical education. After graduation in medicine in 1916, young Banting immediately reënlisted in the Canadian army and was commissioned captain in the Fifteenth General Hospital Unit of the Canadian Army Medical Corps.

In the Battle of Cambrai in September, Banting received a wound of the hand, his "blighty" as the British proudly called their war wounds. The wound was so severe that amputation was thought necessary. Banting is said to have refused to be operated upon, saying emphatically, "I am going to keep that arm." Somehow he must have known that he would need it in winning one of the great victories of peace in years to come. Banting was awarded the military cross by the British Government for "valorous conduct during the Cambrai engagement."

THE UNSUCCESSFUL YOUNG SURGEON. Follow- the close of World War I, after serving as resident surgeon in the Hospital for Sick Children in Toronto in 1919 and 1920, Banting located in London, Ontario, where he received little encouragement to practice medicine, but where as an instructor in physiology in the University of Western Ontario he received the inspiration which culminated in the greatest medical discovery of the twentieth century. In an address on "The Early Story of Insulin" at the opening of the Lilly Research Laboratories, Banting related his four months' experience as a practitioner of medicine in these words:

> "I commenced the practice of medicine in London, Ontario. After I had observed the conventional office hours of 2 to 4 p.m. and 6 to 8 p.m. for twenty-eight consecutive days, my first patient presented himself. At the end of the month I had four dollars on the books. The succeeding months were not much more gratifying. However, in October, when the medical school opened, I was successful in obtaining an appointment as demonstrator in the Department of Physiology and Anatomy which gave me access to these laboratories. On October 30, it so happened that in the early part of the evening I was preparing a lecture on the relation of the pancreas to diabetes, and when the lecture was completed I commenced the perusal of the newly arrived November number of "Surgery, Gynecology and Obstetrics." This journal contained an article by Moses Barron in which he pointed out the analogy between the degenerative changes which follow the experimental ligation of the pancreatic duct, and the blockage of the duct by gallstones.
>
> After reading the article by Barron I was unable to sleep. There seemed to be in some vague way a relation between the islet cells of the pancreas and clinical diabetes. There seemed also to be a means of attacking the problem of extracting the islet cells by ligating the pancreatic duct. It was not until two o'clock in the morning that I was able to crystallize the idea into a form that would lend itself to experimentation. At that hour I arose and wrote in my notebook the following words: "Ligate pancreatic ducts of dogs. Wait six to eight weeks for degeneration. Remove the residue and extract." The following morning I consulted a number of the professors at London concerning the idea, and inquired as to the possibilities of obtaining facilities for experimental work. Unfortunately, it so happened that since the new medical school was not completed, facilities and assistance could not be provided. On the advice of Professor Miller, I went to the University of Toronto, my Alma Mater, to consult Professor J. J. R. MacLeod, I had never met Professor MacLeod until this time, but his reputation as an authority on carbohydrate metabolism was well known.
>
> After I had presented my case, Professor MacLeod asked me what I hoped to accomplish when the best trained physiologists had not succeeded in establishing or proving that there was an internal secretion of the pancreas. My request was that I should be given ten dogs, an assistant for eight weeks and facilities for doing blood and urine-sugar estimations."

BANTING'S QUALITIES OF GENIUS. Osler, in discussing what he called the "bread and water" period of a doctor's life, stressed the value of leisure to study for a young man beginning the practice of medicine. The wisdom of Osler's advice was exemplified by Banting, who did not waste his golden hours of leisure in fear of failure, nor in riotous living, but took advantage of the opportunity to prepare himself to teach physiology and practice surgery. Banting's mind was on his profession. Genius is inspired in the man who is prepared to translate opportunity into action when it knocks on his door.

Banting was poor, very poor, at the time he had the vision and the courage to attempt to isolate from the islet cells of the pancreas the hormone which he believed, and many others before him had believed, would control one of the most dreaded diseases with which human beings are afflicted; but his poverty did not deter him from following his vision. He sold his automobile and the few medical books that he owned in order to get the money to pay his expenses while he was undertaking what seemed an impossible task to one of the greatest physiologists in the world.

It is said that Banting was engaged to a boyhood sweetheart at the time he located in London, but that girl of his dreams jilted him because he was too poor to marry. Had she known that in fifteen years she would have become Lady Banting, she might have remained constant to her poor but brilliant doctor fiancé.

No finer example of courage has ever been recorded in history than was demonstrated by Banting in his quest to find the remedy for diabetes mellitus. He also had another quality of character essential to genius, and that was persistence; some call it stubbornness. A man with less courage never would have undertaken what others thought was a wild experiment, and one with less persistence would have been discouraged by the obstacles that he had to hurdle. Yet this young Canadian seems never to have faltered in accomplishing what appeared to be impossible until the hormone of the pancreas which regulates carbohydrate metabolism was isolated and used successfully in controlling diabetes in human beings.

Banting's beloved and brilliant confrère, "Charlie" Best, in a beautiful tribute published in "Science" (March 14, 1941), outlined the philosophy believed in and adhered to by his dead friends, as expressed in two of the closing paragraphs of Banting's Edinburgh address. Best said:

> "Banting was true to his philosophy of life which he, at one time, described in the following simple and effective words:
>
> "It is not within the power of the properly constructed human mind to be satisfied. Progress would cease if this were the case. The greatest joy in life is to accomplish. It is the getting, not

the having. It is the giving, not the keeping.

"I am a firm believer in the theory that you can do or be anything that you wish in this world, within reason, if you are prepared to make the sacrifices, think and work hard enough and long enough."

Diabetes Mellitus before the Banting Era. The ancient Egyptians, long before the time of Moses, observed polyuria as a disorder, but they did not mention the other manifestations of diabetes. Profuse urination was mentioned in one of the oldest extant medical compilation, the "Papyrus Ebers"; but diabetes as a disease appears not to have been known at the time of Hippocrates, the Father of Medicine (460-377 B. C.), who on the Aegean Island of Cos, recorded in Greek what was then known about diseases that afflict mankind.

Aurelius Cornelius Celsus (30 B. C. - 30 A.D.) appears to have been the first to describe a disease entity associated with polyuria. Celsus wrote, "When urine even in excess of drink, and flowing forth without pain, causes emaciation and danger," but he did not give the disease a name.

Aretaeus of Cappadocia (30-90 A. D.) seems to have been the first medical writer to use the word diabetes, which was derived from two Greek words meaning respectively *to run through* and *a siphon.* Aretaeus described polyuria and emaciation as manifestations of diabetes, a disease that always ended in death. It later was noted by the Greeks that bees swarmed around the urine of diabetics and that it had a sweet taste. The Greek word mellitus, meaning honey, was then added to diabetes, the term which Aretaeus used to describe the syndrome of which polyuria was a part. Thus, the term diabetes mellitus has been used for nearly two thousand years to describe a disease, the treatment of which was of but little avail until 1922.

Before Banting's discovery of insulin diabetes was the bête noir of physicians. Patients with severe diabetes, children in particular, always died after a miserable existence of from a few weeks to a few years. Mild diabetics lived sometimes for years without great inconvenience, but a large proportion of them ultimately developed gangrene of one foot or both, requiring amputation. In preinsulin days it was estimated that about one third of all adult diabetics had to have one or both legs amputated. Other mild diabetics developed furunculosis, carbuncles and other skin complications, which in many cases resulted in septicemia and death. Neuritis, the most painful complication of diabetes, and for which nothing could be done, was responsible for many a diabetic's becoming a morphine addict. Pneumonia, "the old man's best friend" as Osler called it, was likewise the diabetic's deliverer from a life of misery in many cases. The bacillus of tuberculosis found fertile soil for its propagation in the tissues of the undernourished diabetic; and it was estimated that about one half of all diabetics before they died became afflicted with "the great white plague" in the days before the discovery of insulin. In others acidosis, diabetic coma, came as euthanasia to end the sufferings of the thirsty, hungry, emaciated, hopelessly ill victim of diabetes.

I would not leave the impression that nothing could be done for diabetes before the discovery of insulin because much had been accomplished in the dietary management of the disease and in ameliorating the symptoms of complicating diseases. Perhaps the most thorough experimental studies on diabetes in animals and clinical observations on human diabetics that had been made since diabetes was first described by Celsus about the time Christ was born, were made and recorded by Frederick M. Allen in the two decades before insulin was discovered. He had developed the undernutrition diet, which enabled many diabetics to prolong their lives before insulin was discovered. Allen also insisted upon caloric feeding for diabetics and taught them to calculate their diets in carbohydrates, proteins and fats. Among other American physicians who had made notable contributions to the management of diabetes may be mentioned Elliott P. Joslin and Rollin Woodyatt. The fact is that insulin would not be of much value in the treatment of diabetes were it not for the scientific methods of dieting involved by Allen, Joslin, Woodyatt and others.

The Postinsulin Era. The use of insulin adjusted to a well balanced diet calculated to meet the nutritional requirement of the individual diabetic, has robbed diabetes of its terrors and placed it among the diseases amenable to medical treatment. Today the physician who has a working knowledge of nutrition as applied to diabetes and who knows how to use insulin, can promise an intelligent diabetic that if he will follow the diet prescribed for him and use insulin as needed, diabetes will not shorten his life nor interfere with his efficiency or happiness.

Now a diabetic child, properly cared for, will grow faster and larger and will develop finer traits of character than his less fortunate brothers and sisters and friends who have not diabetes. The reason is that the diabetic child with the use of insulin now may live on a diet which is ideal for all growing children while his less fortunate playmates eat what they want instead of what is good for them. The self denial which the diabetic child must practice develops character. In every large school and college in the United States there are diabetic boys and girls who lead their classes and who are proficient in all the sports, from pingpong to football.

Symptoms of the Insulin Reaction. Banting, Best, Campbell, Fletcher and their associates are indirectly responsible for the recognition of a new disease entity, a disorder of insulin secretion, the opposite condition to diabetes. The Toronto group found that overdoses of insulin (induced hyperinsulinism) produced definite symptoms, called by them the insulin reaction; and they published a number of papers in which the symptoms that followed overdoses of insulin were accurately and graphically described. No one has ever described the symptoms which follow overdoses of insulin in diabetics better than did Banting in his address before the International Conference on Health Problems in Tropical America, at Kingston, Jamaica, July 21-31, 1924. He said:

> When a patient is given too large a dose of insulin the blood-sugar falls below its normal level, producing marked reaction, which begins in from one and a half to six hours after the patient receives the overdose. The average time is three to four hours. The interval varies with the individual, the dosage, and the food ingested. The first warning of this hypoglycemic reaction is an unaccountable anxiety and a feeling of impending trouble, associated with restlessness. This is frequently followed by profuse perspiration.
>
> At this time there is usually a great desire for food. Very soon the patient will notice a certain sensation as of clonic tremor in the muscles of the extremities. This can be controlled at first. Coordination, however, is impaired for the more delicate movements. Coincident with this, there is a marked pallor of the skin with a rise in pulse rate to one hundred or one hundred and twenty beats per minute. Pupils become dilated. The blood pressure falls about 15 to 25 millimeters of mercury, and the patient feels faint. The ability to do physical or mental work is greatly impaired. In a severe reaction there may be a considerable degree of aphasia, the patient having to grope for words. The memory of names and figures may be quite faulty. As the blood-sugar falls to a still lower level the blood pressure and body temperature also fall, and collapse, unconsciousness. convulsions, and finally death, may occur.
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> The ingestion of carbohydrate in the form of orange juice (4 to 8 ounces), glucose or candy, relieves these symptoms in from 5 to 10 minutes. If untreated, and coma or convulsions have occurred, 10 to 15 minims of epinephrine will usually restore consciousness within 3 minutes, at which time glucose should be given by mouth to prevent further recurrence.

The Recognition of Hyperinsulinism, a New Disease Entity. During my week in Toronto in March, 1923, after I had made the rounds with Banting and his associates in the diabetic wards of the Toronto General Hospital one morning, we stopped on the ice-covered sidewalk to discuss the reaction which follows overdoses of insulin. I said to Banting, "Since you have proved that diabetes is due to deficiency of insulin, there must exist an opposite disease characterized by an excessive secretion of insulin by the pancreas, and, if so, the symptoms should be the same as those the patients we have just seen complained of after having had overdoses of insulin." I asked him if he or his associates had observed symptoms of an excessive secretion of insulin in laboratory animals or human beings. Banting replied that neither he nor his confrères had seen any such cases. I asked him if he had found in medical literature any reference to condition, or disease, caused by an excessive secretion of insulin. He replied that he had not. I also said to Banting, "I am sure that I have seen patients who neither had diabetes nor had used insulin, whose symptoms were similar to those that we saw this morning in diabetics from overdoses of insulin.

The First Recognized Case of Hyperinsulinism. At the time I was discussing with Banting the possible existence of a disease due to excessive secretion of insulin, I could not recall the names of patients who had symptoms which could have resulted from this cause. Within a week after my return to Birmingham from Toronto, Dr. J. G. Palmer of Opelika came into my office about noon (March 19, 1923) and in his characteristic good-humored badinage said, "Harris, you are a sorry doctor. About a month ago you x-rayed me; I swallowed that terrible stomach tube; you made me take a lot of medicines and gave me a diet which I have followed rigidly, and I am not one bit better." I asked him to tell me his symptoms. He said, "Every morning an hour before dinner I have the jitters. I get hungry, weak, nervous, tremble and break out in a heavy sweat. I become so irritable that I cannot look after patients. These symptoms are relieved by taking a soft drink or eating. I feel fine for three or four hours after dinner, but late in the afternoon I get jittery again and have to take a soft drink. I wake up in the middle of the night and cannot sleep because of the same symptoms. I have the jitters now. I had an early breakfast and am terribly hungry."

In taking case histories we record the patients' complaints in their own words; a month before, about a week before I went to Toronto, this patient had used practically the same words in describing his symptoms. The thought flashed across my mind that his symptoms might be due to hypoglycemia, and I asked him to go back to the laboratory for a blood sugar test. The blood sugar was low, 65 milligrams per hundred cubic centimeters of blood. We then gave him dextrose, and in a few minutes he said that all the symptoms were relieved. We gave him no medicines, but since he was overweight, he was advised to eat three small meals a day and to take an orange or other fruit about three hours after meals, at bedtime and if awake at night. This simple change in diet prevented the recurrence of symptoms until his death from another cause about ten years later. The word hyperinsulinism was coined in March 1923 to record the diagnosis in this case.

The symptoms of this patient illustrate the type of mild insulin "jitters" occurring most frequently. It may be best for a person who has such symptoms to have blood sugar tests to confirm the diagnosis of hypersulinism; if, however, he will leave sweets out of his diet, eat three small meals a day, and take fruit, fruit juices or milk three hours after meals, he may be able to cure himself without consulting a physician.

HYPERINSULINISM IN A POTENTIAL DIABETIC. Our second case (October 5, 1923) was that of a patient who had been under observation for several years. He said that every day before dinner and late in the afternoon he became so weak and hungry that he believed he would die if a meal were delayed an hour. He had a low blood sugar (0.065) about noon, and the next day in a sugar tolerance test his blood sugar fell to 67 milligrams per hundred cubic centimeters of blood in three hours. Two hours later his blood sugar was probably much lower for when en route home he became weak, trembled, perspired freely and became anxious. fearing he would die unless he ate something. All his symptoms were relieved by eating.

Previously this patient had had sugar in the urine at times and he was regarded as a potential diabetic. He was placed on a diabetic diet high in fats, and low in carbohydrates with fruit three hours after meals, a regimen which prevented symptoms so long as he adhered to it. He craved sweets and several times went on what he called a 'candy jag." Invariably the eating of candy was followed by attacks of the "jitters" when he got hungry. It may be added that excessive indulgence in candy, soft drinks and other cane sugar products is one of the causes of hyperinsulinism.

THE FIRST REPORTED CASES. At a meeting of the Virginia State Medical Association in October 1923 in a paper on "The Etiology of Diabetes" brief mention was made of these two cases which had been diagnosed as hyperinsulinism. It was also suggested that hypoinsulinism may be used in scientific nomenclature as synonymous with diabetes mellitus. In one of these cases the patient, who had symptoms which proved to be due to hypoglycemia, was overweight and had had glycosuria previously. He was considered a potential diabetic. It therefore was suggested that hyperinsulinism may precede diabetes mellitus (hypoinsulinism) just as hyperthyroidism and hyperpituitarism have been known by involution to change into the undersecretion phase, hypothyroidism and hypopituitarism respectively. This paper was published in the *Virginia Medical Monthly* in January 1924 when for the first time the words hyperinsulinism and hypoinsulinism appeared in medical literature.

THE FIRST PAPER ON HYPERINSULINISM. By June 1924 we had found 5 patients who had symptoms similar to those observed in diabetics from overdose of insulin (induced hyperinsulinism), all of whom had low blood sugars (hypoglycemia) at the times when their symptoms occurred. These cases were reported in an article entitled "Hyperinsulinism and Dysinsulinism," read at a meeting of the American Medical Association in Chicago in June, 1824. Seventeen years after the publication of that paper, with an experience of treating at least 500 cases diagnosed as hyperinsulinism and dysinsulinism, and after a careful study of the literature including reports of cases from practically every country in the world in which scientific medicine is practiced, I find it pleasing to reread my conclusions of 1924 and to find that there is so little to take back.

THE FREQUENCY OF HYPERINSULINISM. Since the first cases of hyperinsulinism were reported in 1923, clinicians all over the world have reported many cases. Cammidge of London reported 200 cases of hypoglycemia in 1930. Sigwald of Paris has written a book on the subject. Sippe and Bostock of Australia in reporting 30 cases in 1932 said that they had more cases of hyperinsulinism than they had of diabetes in a given time. Hartmann of Washington University in St. Louis reported 285 cases of hypoglycemia (low blood sugar) in children. Martin of Johns Hopkins reported 225 cases in which the patients had low blood sugars. Goldzieher of New York City reported 125 cases.

Powell of West Monroe, La., found 25 cases of hyperinsulinism in his general practice in one year. His observation that many children, who are considered dull and who are difficult to manage at home and in school, have hyperinsulinism as an important contribution to medicine. Regarding the frequency of hyperinsulinism Powell said:

> Ample case reports are now in the literature to show that hyperinsulinism causes symptoms varying from drowsiness to narcolepsy, from vertigo to epilepsy, and from mental deficiency to mental degeneracy. Unfortunately all the cases are not in the literature; they are to be found in every doctor's clientele, and sad to relate, most probably are untreated.

SEVERE HYPERINSULINISM. Hyperinsulinism is not a simple disease in many cases. Often it is associated with disorders of the pituitary, thyroidism and adrenal glands, and sometimes it may be very difficult to diagnose and cure. In many of the severe cases convulsions occur. Such cases usually are diagnosed erroneously as epilepsy.

Wilder in 1927 reported the first case of hyperinsulinism due to an islet tumor of the pancreas. In this case an exploratory laparotomy revealed an inoperable tumor which at autopsy proved to be an islet cell carcinoma. In cases due to adenoma of the pancreas, when the diagnosis has been made early, surgical removal of the tumor has not failed to cure the patient. I regret that in the time allotted me it is not possible to give credit to many others who have made valuable contributions to the knowledge of perverted carbohydrate metabolism in which spontaneous hypoglycemia occurs.

BANTING AS A MEDICAL TEACHER. When insulin was discovered, the medical profession generally knew but little regarding the principles of nutrition on which the dietary management of diabetes was based. The use of insulin in the treatment of diabetes was of limited value without training in calculating the food values of the diets given to diabetics. In order, therefore, to inform the medical profession on the use of insulin in the treatment of diabetes, Dr. Graham, professor of medicine, and his associates, Drs. Campbell and Fletcher, in the Medical Department of the University of Toronto, initiated a series of courses in postgraduate instruction on the use of insulin and the dietary management of diabetes.

Since I had associated with me in our clinic in Birmingham, Dr. J. P. Chapman, now of Selma, Alabama, a very capable clinician, the lamented Dr. W. J. Geddes, a diabetic, who had graduated from the University of Toronto and who had had a year's training in the diabetic wards of the Toronto General Hospital, and a dietitian, Miss Nora Greene, who had received her training in the Toronto General Hospital, we arranged a series of postgraduate seminars lasting two days each, based upon those given at the University of Toronto, to which Southern physicians were invited. Nearly 600 physicians attended the three seminars.

Dr. Banting was invited as guest speaker at the first seminar to deliver two addresses, one on "The Use of Insulin in the Treatment of Diabetes" and the other on "The Management of the Complications of Diabetes." He read his two addresses. They were gems of descriptive rhetoric and diction, clear and concise; and the 250 physicians, who listened with the attention due an authority on diabetes, learned what many of them had come long distances to hear. Embarrassed when he began each address, he soon forgot himself in his desire to teach his subject to eager listeners and interpolated his text with many interesting observations. He also held a clinic, lasting for an hour, in which he discussed the management of several of our diabetic cases. His discussion of the problems met with in treating each of the several diabetics presented likewise showed that he had a thorough knowledge of his subject and demonstrated that he was an impressive teacher of clinical medicine.

Banting was my house-guest for the two days, and Mrs. Harris and I greatly enjoyed having him in our home. Much to his discomfort, we gave a dinner and reception for him at the Birmingham Country Club which he endured with smiling fortitude, but which I am afraid he did not enjoy. Banting was not anti-social. He knew and practiced the amenities of polite society, but he was retiring and reticent by nature, preferring to be with a very few selected friends rather than to be a social lion.

While in Birmingham, Banting made a never-to-be-forgotten impression on the Southern doctors, who vowed that they learned more about diabetes from hearing Banting for two days than they had learned in their professional lives up to that time. They returned to their homes to apply in the management of diabetes what they had learned. Not infrequently in the eighteen years that have elapsed since Banting's memorable visit to Birmingham, physicians have expressed to me their appreciation for what they learned from the young Canadian, who came more than a thousand miles from Toronto to Birmingham to tell in plain and simple language what general practitioners desired to know about the use of insulin in the treatment of diabetes mellitus. Some of them expressed the opinion that when Banting was talking, they realized they were listening to the words of an extraordinary man, a genius, who will go down in history as one of the immortals in medicine.

Banting in the Tropics. In July and August of 1924 I had the privilege of traveling with Banting for two months in the West Indies and Central America. The occasion was the International Conference on Health Problems in Tropical America. W. W. Deeks, medical director of the United Fruit Company, called the conference, to which were invited a number of distinguished guests, all of whose expenses were paid by the United Fruit Company. Most of those who participated in the conference, which lasted for two weeks in Havana and at the Myrtle Bank Hotel in Kingston, Jamaica, were recognized authorities on the tropical diseases which they discussed. Among them was a number of celebrated Britishers, Sir Leonard Rogers, Sir James Simpson, Sir Arbuthnut Lane and Sir Arthur Newsholme. Eight or nine American physicians were in the party. Banting, however, was the cynosure of all eyes, a position which he did not altogether enjoy. The physicians in Havana, Jamaica, Gautemala, Honduras, Costa Rica and Panama were as much interested in Banting's methods of treating diabetes as we were in the United States. They all wanted to meet Banting, and he was invited to talk and hold clinics on diabetes everywhere that we went. Though he was an interesting talker when on his feet, he did not like to make speeches and he declined most of the invitations.

Banting's address on "Insulin in the Treatment of Diabetes," delivered in Jamaica, was one of the best of the many which I heard him deliver. I have read it since his death; and, in my opinion, it is the simplest, clearest, most concise discussion of the underlying causes of diabetes and the use of insulin in its treatment that has ever been written. While Banting was not in any sense an orator, he was an impressive talker, who expressed his ideas in plain and forceful language.

The International Conference on Health Problems in Tropical America was called primarily for a discussion of the recent advances in the prevention and treatment of the diseases that were problems of the medical department of the United Fruit Company, which cared for the health of 100,000 employees and their families, making a total population of more than half a million people. The heads of the United Fruit Company hospitals in eight or ten countries and physicians representing all the countries of Central and South America were invited to attend. The essayists, who were considered authorities on the subjects they discussed, were also requested to study health conditions and the prevention of disease in the countries they visited as the guests of the United Fruit Company and the governments of the several countries. Banting discussed diabetes and the use of insulin, and he studied the conditions which might account for the relatively few cases of diabetes occurring among the lower classes in the tropics. Incidentally, I may mention that I was invited to discuss pellagra and to study the food conditions and nutritional disease on the various banana plantations the United Fruit Company maintains in the West Indies and Central America.

Banting's observations regarding the relatively low incidence of diabetes among the indigent and laboring classes in the tropics and its relatively high incidence in the same localities among the upper classes, who can afford to buy refined cane sugar products, is of more than passing interest. It should be added that Deeks had preached for years that the high carbohydrate diets, particularly of refined cane sugar products, which all classes consume, is the cause of many diseases, including diabetes and pellagra, which occur in the tropics.

Sir Frederick Grant Banting, K.B.E., M.B., F.R.C.S., L.R.C.P., M.D.. D.S.C., L.L.D., S.C.D. In a recent volume of "Who's Who in Canada," a biographical sketch of Banting includes a list of his degrees, collegiate and honorary, as in the foregoing subtitle. No one ever deserved honors more than he, and no distinguished man ever appreciated such recognition more; yet all the titles, medals, prizes and honorary degrees that were given him did not change the humbleness of this simple child of genius. He was the same kind and gentle Fred Banting to his friends after he was knighted by the ruler of the British Empire as he was before he achieved fame.

The *Journal of the American Medical Association*, March 8, 1941, lists some of the honors bestowed upon Banting as follows:

> Since 1923 he has been professor of medical research in the Banting and Best Department of Medical Research, a chair which was established by the University of Toronto in recognition of his work on insulin. It was proposed in 1923 that a $1,000,000 Banting Medical Research Foundation be established. Dr. Banting was the first contributor to the fund, donating $10,000, a portion of his share of the Nobel Prize. In 1930 the Banting Institute was opened; the cost of the building was contributed by the provincial government, the university and the Banting Research Foundation, which raised funds by popular subscription. Dr. Banting was honorary consulting physician at the Toronto General and Toronto Western hospitals.
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> In 1922 he was awarded the Starr Gold Medal and the George Armstrong Peters Prize and in 1923 the Charles Mickle Fellowship and the Reeve Prize, all of the University of Toronto. In 1923 he shared the Nobel Prize with Dr. J. J. R. MacLeod. This they divided with Drs. Best and Collip. In the same year he was awarded the John Scott Medal by the city of Philadelphia and received a life annuity of $7,500 from the parliment of Canada; in 1924 he was awarded the Rosenberger Gold Medal by the University of Chicago; in 1927 the Cameron Prize by the University of Edinburg; in 1931 the Flavelle Medal by the Royal Society of Canada; in 1934 the Apothecaries' Medal of London; in 1936 the F. N. G. Starr Gold Medal by the Canadian Medical Association.
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> Dr. Banting was knighted a Commander of the Civil Division of the order of the British Empire in 1934. He was a licentiate of the Royal College of Physicians, member of the Royal College of Surgeons, fellow of the American College of Physicians, fellow of the Royal College of Surgeons of England, fellow of the Royal College of Surgeons of London, fellow of the Royal College of Surgeons of Canada, fellow of the Royal College of Physicians. He was an honorary fellow of the Academy of Medicine of Toronto and of the New York Academy of Medicine; honorary member of the Norwegian Medical Society in Oslo; foreign correspondent Academic Royal de Medicine de Belgique; La Societa Medico-Chirurgia de Bolonga; corresponding member of the Royal Medical Society of Budapest; member of the Canadian Medical Association. American Society for Pharmacology and Experimental Therapeutics, British Physiological Society, Association of American Physicians, Canadian Chemical Association, American Association for Cancer Research and the Imperial German Academy of Natural Sciences.

BANTING ON HIGH CARBOHYDRATE DIETS IN DIABETES. While on a visit to Toronto in 1935, I discussed with Banting the subject of diets in diabetes. I expressed the opinion that the basic principles of a diet high in carbohydrates and low in fats seemed sound and mentioned the work of Rabinowitch of Montreal, a pioneer in advocating a higher intake of carbohydrates and a reduction in fats in diabetes. He said that he knew "Rabby," as he called Rabinowitch, well and thought highly of his work. He related an amusing incident which he thought might have had some influence in changing "Rabby" from starving his diabetics to giving them a liberal allowance of carbohydrates. He said that a big, husky, hungry diabetic Canadian woodsman, who made maple sugar, consulted him and told him of the diet that Rabinowitch had been giving him. It consisted of bran biscuits, five per cent vegetables and a more liberal allowance of meats and fats. Every few minutes while talking, he took from a can in his pocket a handful of thrice cooked cabbage, which he ate greedily. He presented Banting with a box of maple sugar, eyeing it as Banting said, "like a hungry dog." After listening to his story, Banting told him to go back and tell "Rabby" that he said for him to eat the thrice cooked cabbage and for the diabetic to eat liberally of his own maple sugar.

Although he had had nothing to do with clinical diabetes for a number of years, the diet high in carbohydrates and low in fats seemed rational to him, he said. He was under the impression, however, that diets high in fats and low in carbohydrates were being used in the diabetic wards of the Toronto General Hospital at that time.

BANTING A MILITARY MARTYR. Banting evidently realized in 1938 that another World War was imminent because three years ago he formulated plans for research in attacking the medical problems involved in military aviation. He was appointed chairman of a committee on medical research and of a subcommittee on aviation medicine of the National Research Council of Canada. His committee warked out improved methods of preserving and "banking" blood for use later in transfusions. It was not an accident that the researches which made possible the storage of blood in large quantities for use in war were carried out by Banting's friend "Charlie" Best, in the Connaught Laboratories in Toronto.

Within a week after Great Britain entered

World War II, Banting volunteered for service. The British government has not released for publication the activities in which Sir Frederick Banting was engaged before his tragic death; but it is said that he was studying methods for preventing the brief periods of unconsciousness experienced by aviators in diving from great heights to lower levels. It also has been said that Major Banting was studying medical problems associated with tank warfare.

On Friday, February 21, Sir Frederick Banting crashed to his death in a military airplane while en route to England. The reasons for his having been ordered for service somewhere in England has not been announced; but it is said that he had requested the privilege of aiding his countrymen in England in the event of invasion by the hordes of barbaric Huns under Hitler. Whatever may have been Banting's mission, he proved that he was willing to give up his life, and he did make the supreme sacrifice for his country, for the United States and for all the other free nations of the earth.

The Associated Press dispatch of February 25 said, "The papers detailing Sir Frederick Banting's invaluable contribution to Britain's war effort were found intact Tuesday in the snow drifts around the transatlantic plane in which he crashed to death last Friday while en route to England. He thus bequeathed, for others to carry out in practice, his secret medico-military project officially described as of 'high national and scientific importance'."

Captain Joseph Mackey, in charge of the airplane in which Sir Frederick Banting was the only passenger en route to England, described the crash in a remote spot in Newfoundland which ended the dramatic career of a medical genius and a benefactor of mankind. He said that Banting never regained complete consciousness after the crash, but that in his delirium "he spoke and acted as though he were a military officer on duty, or a professor in a clinic. He commanded me to take down dictation, and he dictated streams of unintelligible medical phraseology." Captain Mackey felt that he might have been witnessing "the struggle of a great mind to fight against death in a race to record his last thoughts. Perhaps medical information of priceless character was lost in those hours."

Banting's Place in History. The good that a man accomplishes does not end when he passes from life into "the dim land of dream," it goes on through the ages to eternity. Though the mortal remains of Frederick Banting have been interred in his beloved homeland, the memory of his accomplishments will be enshrined in the hearts of men wherever scientific medicine is practiced until the end of time. Every day somewhere in the world in the years to come, when the archfiend, Hitler, and the fearful ruin he has wrought will have been forgotten, grateful physicians will witness the miracle of bringing back to life moribund victims of diabetic acidosis and coma by the use of insulin.

In the ages to come countless millions of diabetics, who may laugh and love and live long, efficient lives because they can use insulin in controlling diabetes and in preventing its complications, will give thanks to Banting, their benefactor, for his legacy to mankind. Frederick Banting will go down in the history of medicine with Louis Pasteur, Lord Lister, Marion Sims and other geniuses who have bequeathed to posterity gifts wrought by their brains, hearts and hands that all other wealth of the world could not purchase. Their lives should be held up constantly before students of medicine and surgery as examples worthy of their emulation. Monuments will be erected to Banting to commemorate his achievements, and other memorials will be established in his honor, but they will not aid to the glory of one who, though he did not seek or care for fame, became immortal. Banting felt that in achieving he was rewarded sufficiently.

Indications for and Contraindications to Cystoscopy and Retrograde Urography*

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In 1907, Nitze, writing in his *Lebrbuch der Kystoskopie*, stated, "Even in ancient times the physicians were not satisfied with the inspection of the surface of the body, but extended it to the accessible cavities of the body, making use of special instruments. The old Hebrews knew the use of the vaginal speculum; among the surgical instruments found in Pompeii there are vaginal specula and apparatus to dilate and inspect the rectum. However, the inspection was confined to the wide channels of the mouth, vagina and rectum, which open on the surfaces of the body. Nowhere is there a record of an attempt to inspect the deeper cavities like the urinary bladder. All such attempts belong to modern times."

To Bozzini, of Frankfurt, goes the credit for the first known attempts at illumination of the bladder (1804) and for his construction of what might be termed the "primitive cystoscope." Twenty-two years later Segalus introduced a cystourethral speculum, but it received little attention, and it was not until 1835 that Desormeaux, sometimes called "the father of cystoscopy" demonstrated his endoscope. These workers and their successors, Cruise, Furstenheim, and Stein, relied upon an external source of light reflected down a tube; consequently, their results were discouragingly poor. Bruck, in 1867, conceived the idea of transilluminating the bladder by placing a platinum wire lamp in the rectum, but he too met failure. A decade later Nitze realized that light had to be carried into the bladder just "as one takes a lamp into a room in order to light it." To this end he labored and the story of his work is classical. Solution of one of the problems of a satisfactory field of vision was the result of seeing the small inverted image of a church tower while he was cleaning a microscope eye-piece, and it was not long before he introduced a prism at the end of the shaft of his cystoscope. However, his water-cooled lighting system was so cumbersome that even the specialists of the day did not commonly use Nitze's apparatus. In 1880. Edison's great invention was made, and six years later his lamp was constructed sufficiently small and delicate for the purpose of cystoscopy. As a result, Nitze's greatest difficulty was solved and the completed instrument was in principle the same as the ones we use today. During the years that have followed, many improvements have been made resulting in the modern operating urethrocystoscope, a truly remarkable constribution to medical science.

Our association with general practitioners has impressed us with their up-to-dateness. No longer do we find them damning cystoscopy as if it were a relic of the Spanish Inquisition. They recognize its importance in the field of urologic investigation and wish to be thoroughly informed as to its indications and contraindications about which surprisingly little has been written. The purpose of this presentation is to set forth major indications and contraindications based upon thousands of cystoscopies personally performed. For the sake of simplicity an anatomical approach has been elected.

URETHROSCOPY

Examinations of the anterior urethra by means of the urethroscope or the urethrocystoscope is indicated in cases presenting symptoms or signs indicative of chronic lesions of the urethral walls or of the accessory glands of Little, Cowper, and Morgagni. These include a watery or slightly purulent intermittent discharge chiefly of the morning type, shreds in the first glass, sensations in the anterior urethra varying from tingling to pain, bleeding as in the case of ulceration, and suspected newgrowths. Biopsy may be performed at the time of inspection; likewise, infected glands may be fulgurated. Because of the danger of posterior urethritis, cellulitis, periurethral abscesses, and even extravasation, anterior urethroscopy is contraindicated in the presence of acute inflammatory processes. Furthermore, strictures requiring dilatation with resulting bleeding contraindicate the procedure. In such instances the use of the instrument must be deferred until satisfactory dilatation has been accomplished.

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Posterior urethroscopy has as its indications: 1. Certain subacute and chronic inflammatory conditions. These patients may present intermittent discharge, frequency, slight burning, slight urgency, slight tenesmus, and hazy or shreddy urine—any or all of which may fail to respond to measures short of urethroscopic examination and treatment. 2. Enlargement of the prostate gland, especially due to hyperplasia or malignancy. Cystoscopic examination is particularly indicated in cases of prostatic obstruction in order to determine the degree of intra-urethral and intra-vesical encroachment, and to prove or rule out the presence of diverticula, stones, and bladder tumors. In many cases transurethral resection will be considered advisable and inspection of the bladder and prostate may be best deferred until the time set for operation; however, as a general rule it is well to consider cases of prostatism as candidates for cystoscopy. 3. Evidence of diminution of the calibre of the posterior urethra as in patients with contracture of the vesical neck. 4. Bleeding from the posterior urethra due to ruptured blood vessels, ulceration, newgrowths, and the like. 5. Symptoms suggestive of congenital valves, bands, or diverticula, especially in infants and children. 6. Certain cases of chronic seminal vesiculitis will require catheterization of the ejaculatory ducts. 7. Lesions in the posterior urethra requiring biopsy.

Contraindications to posterior urethroscopy are: 1. Acute inflammatory processes, such as acute specific and non-specific urethritis, acute prostatitis, and acute epididymo-orchitis. 2. Rupture of the urethra. 3. Marked active bleeding.

CYSTOSCOPY

Among the indications for cystoscopic investigation of the bladder *per se*, we might list: 1. Frequency of urination of unexplained origin, with or without pain. Frequency especially in cases of pain before micturition and/or at the completion of the act. 2. Hematuria. Occasional hematuria is often treated with contempt much to the disaster of the patient and the chagrin of his or her physician. During the past week, one of us (H. T. B.) cystoscoped a man who gave a history of painless slight hematuria for eighteen months, during which time he had been seen repeatedly by his doctor without cystoscopy having been advised. This middle-aged healthy-looking person proved to have a carcinoma involving most of the bladder. Experience has taught that the presence of blood in the urine, microscopic or macroscopic, frank or concealed, transient or continuous, demands complete and intelligent urologic study. In this connection it is well to emphasize that hematuria is potentially indicative of calculus, malignancy, or tuberculosis somewhere in the urinary tract. One must not attempt to treat hematuria; one must ascertain its cause and obliterate that cause. 3. Persistent cloudiness of the urine in two or three glasses is a sign that the patient should be examined cystoscopically. This indication is not generally appreciated and its importance cannot be overemphasized. 4. All cases of chronic cystitis and certain subacute ones should be cystoscoped in order to determine the presence of a urinary tract focus of infection or some obstructive lesion. 5. Evidence of diverticulum as shown by patient voiding forcibly, stopping, and then voiding some more. 6. In the absence of urethral obstruction or blockage caused by a highly inflamed prostate gland, cystoscopy should be performed in all cases of vesical retention of urine. Partial retention may be due to cystocele, diverticulum, elevation of the internal sphincter as in contracture of the vesical neck or prostatic hypertrophy, or neurogenic bladder. Complete retention requiring cystoscopic examination may be caused by non-inflammatory enlargement of the prostate gland and neurogenic bladder. 7. Patients presenting calculi or other foreign bodies in the bladder should be cystoscoped. We have seen a great variety of objects which have been introduced into the bladder including hair pins, safety pins, nails, chewing gum, blades of grass, matches, toothpicks, small twigs, slippery elm bark, spectacle ear piece, and filiforms. Occasionally we encounter a case with some introduced object serving as the nucleus for a calculus. It is unnecessary to say that these objects and many stones can be removed by means of the operating cystoscope. Certain other stones can be crushed with a lithotrite. 8. Cases of suspected vesical newgrowths should be given the benefit of early cystoscopy. Biopsy should be performed and treatment instituted without delay. 9. The same statement applies to cases of bladder ulcers, be they tuberculous, Hunner's or non-specific. It is indeed deplorable that many cases of vesical tuberculosis are not diagnosed until the bladder has become markedly contracted. 10. Thorough investigation of vesical fistulae obviously includes cystoscopic study. This includes vesico-vaginal, vesico-cervical, vesico-uterine, entero-vesical, and vesico-rectal fistulae. 11. Congenital anomalies and malformations of the reproductive tract often indicate similar abnormalities of the urinary system. For that reason, such cases should be thoroughly studied from the urologic point of view. We have seen horseshoe kidney associated with bicornuate uterus, pelvic kidney in a case of aplasia of the vagina, and other similar conditions.

Among the constraindications to cystoscopy are: 1. Acute gangrenous cystitis. Often we are told that acute cystitis *per se* is a contraindication, but this is true only in the sense that it is best to allow a few days to elapse while local or internal measures are employed. 2. Rupture of the bladder as a rule definitely contraindicates the procedure; however, a balloon may be used if one should wish to make an examination cystoscopically. 3. Marked contractures of the bladder complicated by acute cystitis render cystoscopic investigation unwise.

CYSTOGRAPHY

Roentgenograms of the bladder after the injection of some radio-opaque solution or in some instances air often provides valuable information. Cystograms should be obtained when any of the following are present: 1. Newgrowths of the bladder. 2. Vesical diverticula. 3. Distortion of the bladder due to extravesical lesions. Recently we had the rare privilege of cystoscoping a case presenting rupture of a tubo-ovarian abscess into the bladder. 4. Certain cases of lower urinary tract obstruction. Some urologists insist that cystograms be obtained on all cases of prostatic obstruction. Those conditions mentioned above as being contraindications to cystoscopy apply as emphatically to cystography.

Ureteral Indications for Cystoscopic Study and Investigation

1. Ureteral or ureteropelvic stone cannot only be diagnosed but many times ureteral dilatation will prove efficacious in obtaining calculi. 2. Any case suspected of having increased and/or decreased diameter of the lumen of either ureter due to stenoses, strictures, or kinks should be given the benefit of investigation. This statement applies especially to patients who have received pelvic or abdominal irradiation. We have seen a number of cases treated for carcinoma of the cervix uteri who died as the result of uremia due to blockage of the ureters; consequently, we recommend that all irradiational (both x-ray and radium) cases be given the benefit of early ureteral dilatation. 3. Determination of the site and type of ureteral obstruction likewise requires investigation by the cystoscopic approach. This statement applies equally to the site, type, and location of the ureteric orifices, and the course of the ureters. 4. All cases of ureteral malignancy should be examined without delay. 5. Biopsy of the ureteral orifices or fulguration of lesions there, including ureterocele, can be performed with an operating cystoscope.

Ureterograms are especially indicated in cases presenting diverticula or calculi, as well as for determining the degree of dilatation and course of the ureters. Acute fulminating ureteritis is, of course, a contraindication to ureteral manipulation just as acute diffuse inflammatory processes of the renal parenchyma contraindicate cystoscopic investigation and pyelography.

Renal Indications for Cystoscopic Study, Ureteral Catheterization, and Pyelography

Among these, renal stone is one of the most important. Even though the stone is solitary, a study of the urine from the affected side as well as the opposite is very important; furthermore, the differential function must be determined. In years gone by far too many nephrectomies were performed for stone and many good kidneys were removed. 2. Renal newgrowths, including tumors and cysts, similarly require study including pyelography. Again it must be emphasized that painless hematuria, at first microscopic, is the first sign of renal malignancy and renal tuberculosis; consequently, if results are to be good—the diagnosis must be made early. 3. Cortical abscesses or carbuncle of the kidney often can be diagnosed by these procedures. In certain cases, the history, physical and laboratory finding, and obliteration of the psoas shadow on the plain KUB x-ray plate clinch the diagnosis; however, ureteral catheterization is necessary for differential function test — a test that must not be ignored in any case being subjected to renal surgery. There are accounts of solitary kidneys being removed— an unforgivable expression of ignorance. 4. All suspected cases of perinephritic abscess should be cystoscoped. In many instances the diagnosis will be obvious, but once again differential function is important because of the possibility of associated carbuncle or cortical abscesses. Too, a lateral pyelo-ureterogram may aid materially in arriving at the diagnosis. 4. Resistant pyelonephritis, including that of pregnancy, often responds almost miraculously to ureteral catheterization. It is very gratifying indeed to cystoscope a patient who has been running high fever for days and to have the temperature fall to normal within a short time after cystoscopy. Obstetricians agree that far too many cases of pyelonephritis of pregnancy are permitted to go without catheterization of the ureters, and as a result many feti and a needless number of mothers are lost. We have found that surprisingly few women will require termination of their pregnancies if they are cystoscoped after reasonable time has been allotted for response to internal medication for pyelonephritis. It is not fair to either the patient or her physician to allow precious time to elapse before renal pelvic drainage is performed. 5. Inflammation and ulceration of the pelvis and calyces can be diagnosed and properly treated by cystoscopic approach. 6. Any case of suspected renal ptosis and/or torsion should be carefully studied. If allowed to continue, hydronephrosis may assume such proportions as to require nephrectomy whereas early diagnosis with nephropexy would have sufficed. 7. Suspected abnormalities of size, shape, and number of the pelvis and calyces can only be proved by this manner. 8. Likewise suspected abnormal relations of the kidney to neighboring organs require pyelography. And, in this connection let it be stated that intravenous urography is of great value in many cases; however, as a rule, the cystoscopic route is much more preferable. 9. Certain cases of renal trauma should be subjected to cystoscopy. 10. The matter of differential renal function is of such major importance that it alone is often an indication for ureteral catheterization. 11. Cases of continued fever of undetermined origin should be thoroughly investigated. All other cases having been eliminated, they should be cystoscoped. Recently we saw a case who presented fever for weeks, and after cystoscopy she became afebrile. 12. Cases of obscure abdominal pain and unexplained backache similarly are entitled to sincere consideration. Needless to say many appendectomies are performed and still the patients complain. The careful surgeon will be sure that there is no urinary trouble before he removes a so-called "chronic appendix." Likewise, the careful internist will seek a urologic cause when his cases of "peptic ulcer" fail to respond to prolonged medical management.

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Great Britain and United States were formerly peaceful nations, "walking in fear of the Lord, very heavily armed and with an increasingly clear view of their salvation."

And that the Allies' "dominating aim is to engage the enemy's forces on land, at sea and in the air on the largest possible scale and at the earliest possible moment."

Hallux Valgus*

A Consideration of the Keller-Brandes Operation.

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Report of Cases

THE RESULTS in general from the various operative procedures for this condition are far from satisfactory. The great number of different procedures would indicate this fact. Many of us, I am sure, have advised against operation for the treatment of hallux valgus on account of the prolonged convalescence, disturbance of the weight-bearing mechanism, and poor end results obtained in so many cases. In fact, operations for hallux valgus are looked upon by the laity as major work.

"Hamsa (quoted by Albert J. Schein), reviewing 339 operations for hallux valgus at the University of Iowa Clinic, concluded that only 61% of the cases had good results with the Mayo operation. With other operations the good cases ranged from 57% down to 19%. Actual poor results were uncommon. The remainder were considered fair."

"At the International Orthopedic Society meeting at Cologne in 1926, a combined report on the results of surgery in hallux valgus, based on hundreds of cases, was presented. Only 50% were considered perfectly satisfactory results, the rest ranging from fair to poor."

The various types of operations for these conditions, with associated authors, are given, as compiled by Hamsa, in Table 1.

TABLE 1

1. Exostectomy	Schede.
2. Exostectomy and capsulotomy, soft tissue and tendon procedures.	Silver, McBride, Porter, Roberts, Hiss, Stanley, Leuggenhagger, and others.
3. Resection of first metatarsal head	Hueter, Mayo, Perkins, Roth, Fowler, Ombredanne, Cleveland, Broca, Bentzon and co-workers.
4. Resection of proximal phalanx plus first metatarsal exostectomy	
A. Total	Alsberg.
B. Partial	Keller, Daries-Colley, Girdlestone, Brandes, Lindemann & Meyerhof, Kaspa, McMurray, Galland & Jordan.
5. Wedge resection of metatarso - cuneiform joint plus plastic procedure at metatarsophalangeal joint.	Riedl, Truslow, Klienberg, Lapidus.
6. Wedge resection metatarsal neck	Hoffman, Reverdin, Mauclaire, Peabody.
7. Osteotomy metatarsal shaft	Ludloff, Chlumský, Cotte.
8. Arthrodesis of metatarsophalangeal joint	Mauclaire.

Resection of the proximal two-thirds of the first phalanx of the great toe plus first metatarsal exostectomy, known as the Keller-Brandes operation, was selected for my cases because it would take care of the severe deformity, give a rapid convalescence, shorten the toe, and produce no fundamental changes in the weight-bearing mechanism of the foot.

REVIEW OF THE LITERATURE (Schein)

The operation appears to have been done by Daries-Colley in 1887 and later by Henback and Clarke. In 1904, Keller, a United States army surgeon, proposed this method as a standard one for dealing with hallux valgus, presenting three successful cases. His technique was essentially the same as it is done today.

Brandes, in 1928, systematized the operation and reported on over 100 cases. He did extraperiosteal resection of two-thirds of the phalanx combined with first metatarsal exostectomy. Splinting was by adduction and plantar flexion, maintained by plaster.

Kaspar, in 1933, reported a series of 31 such operations. He used more plantar flexion to prevent dorsiflexion contractures and less adduction splintage, and made the point that in some cases even wound infection and stiffness produced no symptoms.

McMurray, in 1936, discussed the problem of hallux valgus and presented his most favored procedure, the resection of well over one-half of the proximal phalanx. He claimed that this tended to correct the deviation of the first metatarsal from the second. He recommended subcutaneous tenotomy of the extensor hallucis longus at a distance from the incision, in cases where this tendon appeared to be acting as a deforming force after the bone had been removed.

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*Read before the South Mississippi Medical Society, Hattiesburg, Miss., Dec. 10, 1942.

Lindemann and Meyerhoff, in 1936, reported a follow-up study of 64 of 80 cases operated upon. Their general procedure resembled that of Brandes, but they advocated lengthening the extensor hallucis longus tendon when marked dorsiflexion of the great toe persisted after resection of the phalanx. They had 104 operations, of which 52 feet were perfect and 40 feet had mild complaints referable to existing splayfeet, slight valgus of the toe, or too noticeable shortening, or mild dorsiflexion. The function on these was very satisfactory. In 12 cases the results were poor due to recurrence in 4 and marked stiffness in 8, although only 2 complained of disability.

Lloyd, in 1936, reported a series of 20 cases of bilateral hallux valgus in which hemiphalangectomy was done on one side and resection of the metatarsal head on the other. After one year, there was no difference, based on subjective feeling of pain only. No statement as to cosmetic or functional result was given. He did not mention the amount of phalanx removed. He claimed that metatarsalgia was uninfluenced by either operation and that the results of metatarsal head resection were as good as the other if one waited long enough.

Galland and Jordan presented the first paper in the American literature since Keller's on this subject, in 1938. They recommended postoperative fixation by traction in a plaster cast by means of a silk stitch through the tip of the toe for one week.

All authors who advocate partial phalangectomy emphasize the short convalescence, the rapid ambulation, and the speedy return to full working capacity, although the toe continues to improve for the first several months.

Schein reported in *Surgery*, March 1940, a series of 55 operations in 32 cases with a review of the literature. He advocates extraperiosteal resection of half to two-thirds of the first phalanx plus first metatarsal exostectomy. The cast is applied with the great toe in slight adduction and plantar flexion for one week and the patient walking by the end of two weeks with a cut-out shoe. Seventy per cent of his cases were excellent, 20% were fair and 10% were failures and were due to removal of insufficient amount of bone.

Points in the Operative Technique

1. The incision may be medial or dorsomedial, but should not be curved around a bunion. A straight incision heals better.

2. The phalanx may be resected either subperiosteally or extra-periosteally. The former is technically easier, although the dissection at the joint capsule must be done by sharp methods in either case. In both, care must be taken not to injure the flexor hallucis longus tendon which is very adherent to the joint capsule and base of the phalanx on its plantar aspect. Extraperiosteal resection is preferable because, in a small number of younger patients, regeneration of bone occurs from the stump of the phalanx occupying the space between the phalanx and the metatarsal head. Section of the phalanx is made by a saw after delivery of its proximal portion into the wound. Bone cutting forceps produce some splintering which necessitates smoothing of the edges.

3. The amount of bone removed is the most important single factor in the entire operation. At first only the proximal one-fourth or one-third of the phalanx was removed, but this gave poor results in the first few, causing partial or complete fusion of the joint. Even in these the functional result was satisfactory in most, though hardly ideal. He now resects between one-half and two-thirds of the bone. Removing less, one has the risk of stiffness and pain. Removing more, one gets too much shortening of the great toe with less satisfactory appearance and control of the digit. Since the toe is usually unduly long in cases of hallux valgus, a moderate amount of the great toe is an advantage and positive necessity in permanently correcting the deformity.

4. In some cases an attempt is made to cover the raw stump of the phalanx, either by a flap or capsule or periosteum, or by approximating the inner and outer walls of the cavity left by the bone resection. In other cases, it has not been harmful simply to close the outer fascial structures without attempting closure of the dead space. The toe is very floppy at first and has abnormal lateral mobility for months. This does not interfere with function and the dead space is quickly obliterated as the new joint tightens up. Full control of the toe occurs at about three or four months.

Points in the Postoperative Care

1. In most of these cases, a single sheet-wadding and bandage splint is made to maintain the toe in marked adduction and plantar flexion for one week. This might lead to formation of a crease at the metatarsophalangeal joint with localized slough of skin. There is no interference with convalescence other than the necessity to maintain a dressing for five or six weeks. In most cases this does not happen, and fixing the toe in but slight adduction and plantar flexion will prevent this. Fixed traction with a stitch through the toenail often produces no difference in convalescence.

2. In cases reported no significant wound infection occurred, although one sinus after a skin slough persisted for a few weeks. The only other complications were a single case of phlebitis and an intercurrent mild respiratory infection.

3. After one week to 10 days, the toe is allowed to return to the neutral position. The patient is out of bed in a week, walking by the end of two weeks with a cut-out shoe.

4. In the last one-half of the cases reported, the forefoot has been supported in most cases by a circular compression dressing of zinc-gelatin bandage for weeks. About one-half of the patients used metatarsal arch supports for some months.

5. Most of the patients are back on full duty in three or four weeks. By the end of six weeks, practically all are restored to their usual occupation.

Case No. 1

Mr. J. White, male. Age 57. Chief complaint—Bunions on both feet for years. Left more severe and produced pain and limping. Cut holes in all of his shoes to relieve pressure on the bunions. Examination revealed severe bilateral hallux valgus. More marked on the left side. The left great toe extended underneath the second and third toes to the fourth. Large exostoses on the medial side of both first metatarsal heads with considerable thickening and redness of the skin with soreness. On March 28, 1940, under spinal anesthesia (pontocain) the left foot was operated on because it was causing the most symptoms. A medial straight incision about 2½ inches long was made directly over the bunion. Extraperiosteal resection of about half of the first phalanx of the first toe was removed plus removal of the exostosis and bursa on the medial aspect of the first metatarsal head. The superficial fascia and skin were closed without drainage and a light cast, with a window for dressings, was applied to maintain the great toe in slight adduction and flexion. The cast was removed on the tenth day and he was allowed to walk in two weeks with a cut-out shoe. The patient was very grateful for results obtained.

Case No. 2

Miss D. H., white, female. Age 31. Occupation—nurse. Has suffered from bunions on both feet for years, more on the left foot, and would often remove her shoes in order to get relief. She also has bilateral flat feet. Examination revealed bilateral hallux valgus, severe but worse on the left side. Considerable redness of the skin over both bunions. On March 7, 1942, the left foot only was operated on removing a little more than half of the proximal phalanx of the first toe plus exostectomy of the first metatarsal head under local anesthesia. The superficial fascia and skin were closed with interrupted sutures of dermis without drainage and without attempted closure of the space left by removal of the bone. A cast with a window was applied with the great toe in slight adduction and flexion for one week, after which she walked with a cut-out shoe. Excellent functional results were obtained but the toe appears a little short from removal of a little more of the phalanx than was necessary.

Case No. 3

L. W., colored, male. Age 37. Occupation, laborer. Has suffered from right bunion for years and wearing his shoe caused his bunion to stay sore nearly all the time. Examination revealed that he had a long splayfoot with a large prominence over his right first metatarsal head with considerable valgus of the great toe. Very slight prominence on the left. On June 11, 1942, under local anesthesia, slightly less than half of the proximal portion of the first phalanx of the first toe was removed plus removal of the exostosis with its bursa on the medial side of the first metatarsal head. Wound closed with interrupted sutures without drainage. Cast with a window applied to maintain the toe in slight adduction and flexion. Cast was removed in ten days, after which he was allowed to walk with a cut-out shoe. Cosmetic and functional results good.

Case No. 4

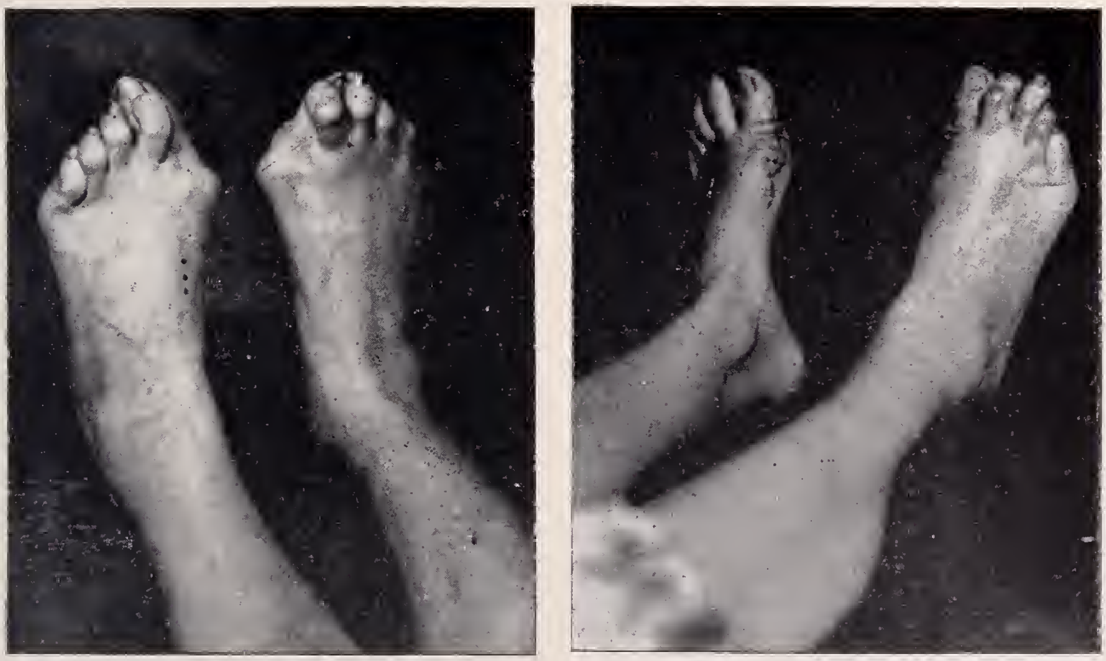
Mrs. R. E. W., white, female. Age, 35. Occupation, housewife. Has complained of a very painful bunion of the left foot for years and was very anxious to have an operation for its correction. Examination revealed a moderate-sized prominence on the medial side of the first metatarsal head with moderate valgus of the great toe. Marked redness, swelling and tenderness due to pressure. Splayfoot was present in both feet with flat transverse metatarsal arch. The Keller-Brandes operation was performed on August 17, 1942, under local anesthesia, and a window cast applied for twelve days, after which she was allowed to walk with a cut-out shoe. The wound healed without infection with good cosmetic and functional results.

CASE NO. 5

Mrs. C. M., white, female. Age 51. Occupation, housewife. Difficulty in walking due to severe bunions on both feet, which have existed since childhood. Patient had a heel-toe gait and had to wear special shoes. Examination revealed severe bilateral hallux valgus with marked prominences over the medial side of both metatarsal heads, which were inflamed due to pressure. Bilateral splayfeet was present with hammer toes. Also the transverse metatarsal arch was flat in both feet. On Sept. 4, 1942, under local anesthesia, bilateral hemiphalangectomy of the first phalanx of the first toe plus removal of the exostoses with their bursae on the medial sides of the heads of the first metatarsal bones. The bursae were distended with fluid. The wounds were closed without drainage and window casts applied for dressings. The immediate postoperative cosmetic results are very good and, I believe, the functional results will be satisfactory.

CASE NO. 5

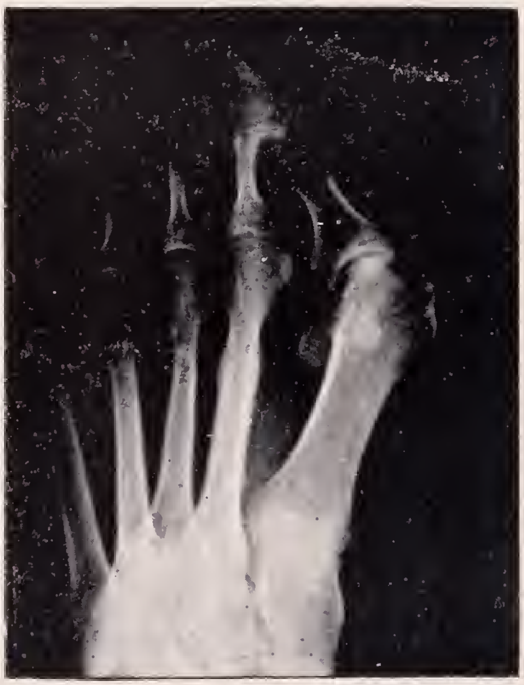
BILATERAL HALLUX VALGUS



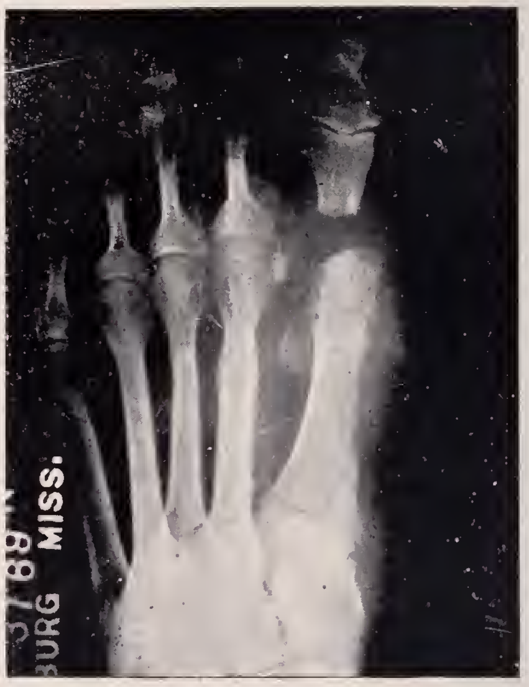
Before

After

Both feet operated on by the Keller operation.



Before



After

SUMMARY

Five patients operated on are reported: Two men and three women. Age at time of operation ranged from 31 to 37 years. Four were white and one colored. The bunions were bilateral in three cases and unilateral in two. Both feet were operated on in only one case, making six operations in five patients. All five cases had coëxisting disturbances such as splayfeet, hammer toes, flat feet and flat transverse metatarsal arches. In all five cases the points in the operative technique and postoperative care were carried out as recommended by Schein. About half of the proximal portion of first phalanx of the first toe was removed, and their exostoses were chiseled off with their bursae. Sulfanilamide powder was implanted in the last four cases. The superficial fascia and skin were closed without closure of the dead space. None was drained and no infections occurred. A light cast, with a window for dressings, was applied in all cases to maintain the great toe in slight adduction and plantar flexion for about ten days, after which they were all allowed to walk with a cut-out shoe. Results were good in all.

IMPRESSIONS AND CONCLUSIONS

This operation is comparatively simple and is suitable for cases which have the greatest amount of valgus of the great toe. Experience will improve one's judgment as to the exact amount of the proximal portion of the first phalanx to remove. Cases with the greatest amount of valgus seem to get the best functional and cosmetic results. Local anesthesia is satisfactory. This operation will not cure coëxisting deformities such as splayfeet, hammer toes and flat feet, but it will cure hallux rigidus. It has some military significance because of the high percentage of satisfactory results. This group of cases is too small to form any definite conclusion, but it seems that the results are good and compare with the claims of others who use the same technique.

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Suggested Outline for the Management of Venereal Disease Problems in Mississippi Industry

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LEST MUCH time be needlessly lost to industrial production during the developing crisis of our need for manpower, it seems imperative that a sound employment policy be established by all interested parties to cover the responsibilities of both employer, employee and medical profession towards venereal disease in Mississippi industry.

The following suggestions are offered purely as a tentative outline. They have been selected from the rules already adopted by most progressive corporations and informed medical groups. It is hoped that they may be used as a general guide to the development of individual programs to meet the needs of all employers of labor in Mississippi.

Approximately 25% of the colored population and 3% of the white population of Mississippi are afflicted with syphilis. It is further estimated that there are from five to seven times as many fresh infections of gonorrhea over any period of time as there are of syphilis. In the past, there have been tremendous surpluses of labor in the state, but as anyone knows who has been faced with the necessity of getting employees recently, this surplus is rapidly dwindling and will probably soon be entirely utilized. It is becoming apparent, therefore, that every available source of manpower be utilized. Absenteeism and loss of productive efficiency is, of course, a part of the acute onset of venereal disease. The firing of these employees and the lack of a definitely integrated control program by management to rehabilitate these workers is an attitude that not only adds to the general venereal disease problem in the community, but also helps to assure the spread of the disease as cases of this type are usually not followed up and treated properly.

HOW CAN THE PROGRAM BE STARTED?

An abrupt change of management's policies in this regard in most companies would prove rather disastrous. It is usually necessary to begin to sell the idea to the employees with an educational program. It is possible at this time to have such a program hand-tailored to the local needs of industry and labor in a given community through the facilities offered by the Division of Preventable Disease Control in the State Board of Health. This program can start with posters, talks, and literature that can be put into the employee's pay envelope. The employee must be convinced that the examination is in no way an effort to jeopardize his job, but on the contrary, an effort that is being made to increase his job security by guaranteeing him proper diagnosis and adequate treatment to protect his health and his ability to earn a living. He should know that the examination is made at no expense to him and that the privileges of being able to get this work done is another one of the demonstrations by the company of their sincere interest in the welfare of all their employees.

The employer must know that many cases of venereal disease are not in an infectious stage; further, that by precluding employment of people because of a positive serological reaction, the employee's trust in the management's objective with physical examination will be undermined so the employee will probably not return to him or his medical representative if he develops an acute infectious condition of this type.

Blood drawn for the serodiagnosis of syphilis may be taken either by the company's physician, or on his written orders by one of the registered nurses of the company, or a representative of the county health department. These specimens may be sent to the State Hygienic Laboratory for free diagnostic service, as may also be sent smears for diagnosis of gonorrhea. Specimens must be submitted in the name of the county health officer or the responsible physician.

Mailing containers for specimens may be purchased from the State Hygienic Laboratory, Jackson, Mississippi. All specimens should be addressed to the State Hygienic Laboratory, State Board of Health, Jackson, Mississippi.

It is easy to establish these diagnostic tests for venereal disease with new employees during their preplacement examination. With the best educational program possible, some of the older employees may not volunteer for venereal disease surveys, but this will not be a large number when they find that their rights are not imposed upon as they can see by the management of those employees who have already submitted to the examination.

SUGGESTED PROCEDURE FOR AUTOMATIC MAINTENANCE BY THE COMPANY

The reports of laboratory procedures will be returned by the laboratory to the physician representing the company. Files of these reports have been found by most companies to be kept under the supervision of the nurse acting as the doctor's agent on his written orders. She can, in this way, follow up such cases in the normal routine of her activities without creating comment or violating the confidential nature of such information—this job, if handled by clerks in the personnel department, can come in for much criticism and embarrassment both to management and the employee by the careless and not too well informed circulation of information.

A list of those licensed physicians in the community who manage venereal disease problems should be kept on file by the company and when one of the reports shows a case of venereal disease, that employee should be instructed to report to one of these doctors. Or if he is unable to pay, he should be told that he can always get free treatment from the county health department.

When the employee has selected his physician, it would probably be a wise follow-up for the company's nurse to contact this physician to explain the company's interest and assure him of every coöperation on the part of the company for treatment of the individual.

In order to protect all parties involved, employees with acute gonorrhea should be given a temporary leave of absence until they have had at least five days of intensive treatment with an effective sulfonamide drug. Those in the acute infectious stages of primary or secondary syphilis should also be given a temporary leave of absence until they have completed their first three treatments for syphilis. In order to assure both the patient and the company that adequate treatment is given, it will probably be best to insist that treatment taken follow the outline recommended by the coöperative clinical groups and adopted by the Mississippi State Board of Health (outlines of these treatment schedules may be had on request from the county health officer or the Mississippi State Board of Health).

In the later and more chronic stages of these conditions, the employee is usually required to furnish the medical department, at least once each month, a statement from the physician from whom he is receiving treatment that his treatment has been regularly taken and in adequate amounts. In this way, cases are not allowed to drift along without adequate treatment toward the possible disasters which start with moving machinery and end in an extremely expensive litigation.

Facilities now available should provide diagnosis and treatment through private physicians and county health departments for all employees, regardless of income, needing such service in order to assure maximum efficiency in this time of critical need. Those who are financially able can and should get service through private physicians and those not able to pay are entitled to the service of county health departments.

Pelvic Inflammatory Disease*

R. B. McLEAN, M.D.
Jackson, Miss.

This report is of all the work on white female patients seen in the past eight years. It relates to all patients in whom any evidence of pelvic inflammatory disease in excess of a simple non-specific cervicitis was found on examination, regardless of the chief complaint. During this period 1092 adult or near adult patients were seen. Of these, 109 were found to have evidence of pelvic inflammatory disease. Only 17 proved to be due to Nicerian infection. Excluding patients who were seen only once and the three who discontinued treatment in one week or less, the number on whom the report is formulated is 83. The fact that smears are the only dependable method for ascertaining the existence of Nicerian infection leaves much to be desired. Many of these cases are probably due to this infection when it can not be proved.

Of 83 patients treatment resulted in improvement in 54, failure in 18, and cure in 11.

Improvement in 65%. In the literature on the Elliott treatment are found reports of 716 cases with 64% from "satisfactory" to "marked improvement" or "cured" and an additional 125 cases reported by Graham[7] who states that "Our records show almost uniform improvement in every case of pelvic inflammatory disease that has been thus treated." He reports one pregnancy following treatment. In order to have a method of stating degree of improvement this presentation employs a numerical scale which is believed to be practicable. Pelvic inflammatory disease is progressive; it starts with the cervix, spreads to the tubes through the parametrial tissues, winding up as a chronic salpingitis. In each pus-filled tube forms a hydrops which is plastered to the surrounding tissues by adhesions. Then consider this scale:

Cervicitis	1
Tenderness in one fornix	2
Tenderness in both fornices	3
One tube palpable	4
Both tubes palpable	5
One tube palpable and tender	6
Both tubes palpable and tender	7
Pyosalpinx in one tube	8
Pyosalpinx in both tubes	9
Hydrosalpinx in one tube	10
Hydrosalpinx in both tubes	11

Thus each number means that all of the conditions of a lower numerical value have existed. As the condition recovers we find the reverse to be true. On the basis of this scale the improvement in these 54 cases averages from 6.5 (one tube palpable and tender, there being something in the other fornix) to 2.8 (tenderness in one fornix, with probably some in the other). Or, expressed entirely in figures, the average improvement is 55%.

Failure in 21% does not sound good. What is considered a failure? If a man were to come to your office with an infected toe, would you amputate the leg and call it a cure? Or, what is more apropos, if a man with urethritis came to you would do a bilateral vasectomy and call it a cure? In these 18 failures are included 14 operations. Recurrence after apparent satisfactory improvement occurred in three cases which were later operated, and one case recurred at four months then discontinued treatment. Here is the summary of one recurrence:

Case 6. Miss B. L., age 27. Chief complaint, metrorrhagia. Smear positive. Bartholin's abscess. Salpingitis acute bilateral. After first week in series of 30 Elliott treatments, all smears negative. About a week after treatment had been discontinued she phoned to inquire if it was natural for her to "have no passion." Three weeks later she reported with her original complaint. Smear positive. She was treated surgically and subsequent smears were negative.

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*Read before the Central Medical Society, Jackson, Mississippi, February 3, 1942.

And here is the summary of the most interesting failure, a case which was treated under a mistaken diagnosis:

Case 13. Mrs. H. D., age 30. Chief complaint: pain in right side of abdomen. Smear negative. Almost complete cervical occlusion following cervical cauterization before first seen. Uterus enlarged and tender, left tubo-ovarian mass, frozen pelvis. Cervical dilatation and insertion of glass stem pessary, sulfathiazole. Twenty Elliott treatments. Pelvis less tender and more movable but development of right ovarian mass. Operation: endometriosis with bilateral chocolate cysts of ovaries. Bilateral salpingo-oophorectomy, histerectomy supravaginal. The tubes were congested but not occluded. Result satisfactory.

When first seen the average failure case was classed as 6.6.

Cure in 13%. Cure in this report means one of two things:

1. The abdomen has been opened from some other cause and the pelvis found to present no evidence of active inflammation or tubal obstruction, and repeated smears are negative.
2. The patient has had a normal pregnancy and delivered a normal baby. When first seen the average case was as 6.4.

All of these cases were not treated by the Elliott method. The difference in the results obtained by its use and without its use is noteworthy. The decision as to whether or not it is to be used is reached through consideration of the findings, the age, and all too frequently the occupation of the patient. If active inflammation is present one is more often pleasantly surprised than disappointed with results.

The group treated by the Elliott method consisted of 49 cases. It shows 8 failures, 30 improved, and 11 cured. Fourteen had positive smears to begin with, none at the completion of the treatment; but two later developed positive smears.

The group treated without the Elliott method consisted of 34 cases. Results showed 10 failures, 24 improved, no cures. Two had positive smears to begin with, one remained negative four months. The other follow-up was not over a long enough period of time to show whether smears remained negative. This group consisted almost wholly of uncoöperative patients. This is emphasized by the fact that 23 of the patients who were seen only once belong here, as against three being discarded from the Elliott group for inadequate treatment. Some were advised to take the Elliott treatment, some to be operated. Treatment in this group consisted of surgery or conservative measures: cervical coagulation, douches, packs, non-specific protein, G. C. filtrate, and later, the sulfonamides. In regard to the latter, there are not enough cases here in which they were used to offer any real value in interpretation. However, the data may be suggestive. Two cases in which neoprontosil was the backbone of the treatment continued to progress. Sulfathiazole alone for a week has given some distinct surprises in negative smears when the diagnosis was clinically an early fulminating Nicerian infection. When used in conjunction with the Elliott the strong impression is that it will hasten resolution in many cases.

Fixed retroversion was found in 13 cases. End results were: Elliott, one forward, two movable, one operated, non-Elliott, four forward, five operated. Movable retroversion was found in six cases and corrected in all.

The following is a brief individual description of each cure:

Case 5. Mrs. W. C., age 22. Chief complaint: menstruating continuously three months. Bilateral chronic salpingitis, uterus retroverted but movable. Chronic nephritis. Twenty-three Elliott treatments. Acute appendix removed one and a half years later. Pelvis normal. Chronic nephritis persists.

Case 10. Mrs. K. W., age 24. Chief complaint: one-child sterility. Bilateral chronic salpingitis, 16 Elliott treatments. Appendectomy one month later. Pelvis normal.

Case 12. Mrs. P. I., age 24. Chief complaint: Burning on urination. Smear positive, both tubes palpable and tender. Twenty-three Elliott treatments. Acute appendix four months later. Pelvis normal. Smears negative.

Case 19. Miss L. M., age 22. Chief complaint:

backache, leucorrhea. Frozen pelvis. Twenty-nine Elliott treatments. Appendectomy seven months later. Pelvis normal.

Case 26. Mrs. M. R., age 22. Chief complaint: hemorrhagia. Tender both tubes, left palpable. Nine Elliott treatments. Now six months pregnant. Conceding this to be a live baby may be too optimistic.

Case 31. Mrs. A. M., age 26. Chief complaint: abdominal pain. Operated: Appendicitis chronic, salpingitis chronic of low grade. Six Elliott treatments. Normal baby.

Case 33. Mrs. E. H., age 33. Chief complaint: one-child sterility. Bilateral chronic salpingitis, smear positive, consultation. Diathermy followed by 12 Elliott treatments. Lipiodol showed both tubes to be open. Normal baby. Smear negative.

Case 38. Miss L. T., age 24. Chief complaint: hemorrhoids, leucorrhea. Smear positive, right tube palpable and tender, pain on motion of cervix. Twenty-five treatments. Smears negative. Appendectomy four months later. Pelvis normal. Married, husband not infected, now seven months pregnant.

Case 42. Mrs. J. B., age 30. Chief complaint: nervous, leucorrhea. Uterus retroverted and fixed. Acute tenderness both fornices. Twelve Elliott treatments. Operation: suspension and appendectomy, tubes normal.

Case 44. Mrs. J. A., age 25. Chief complaint: acute hemorrhagic nephritis. Acute bilateral salpingitis and parametritis. Consultation. Twenty Elliott treatments. Recovery without evidence of kidney damage. Two babies.

Case 56. Miss E. O., age 20. Chief complaint: labial swelling, right. Smear positive. Left tubo-ovarian mass, right tube palpable and tender. Right Bartholin's abscess. Consultation. Forty-seven treatments, cauterization of gland. Smears negative. Normal baby.

SUMMARY

This report is based on 83 white female patients between the ages of 13 and 53 who were treated for some degree of pelvic inflammatory disease in excess to a simple non-specific cervicitis. All operations requiring the removal of the tubes or more are considered failures General improvement was obtained in 79% of the cases, the Elliott method offering 68% individual improvement, the non-Elliott 50%. There are four normal babies by three patients and two pregnancies now existing at seven and six months in the group of Elliott treated cases.

CONCLUSIONS

1. Prolonged application of heat direct to the pelvis is superior to other methods of treating pelvic inflammatory disease in common use.
2. The Elliott method is a good means of attaining this end.
3. Conservative treatment only offers hope of future pregnancy.
4. The use of the sulfonamide family is a useful adjunct in treatment of pelvic inflammatory disease.

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NOTE: Since this paper was presented one cured case has become pregnant a second time, while one who was pregnant six months had a premature rupture of the membranes at seven months with prolapse of the cord resulting in loss of the baby. One case listed as improved 81% had a recurrence of reinfection after four years of symptom-free life; this time she again had an acute bilateral salpingitis with a right tubo-ovarian abscess which again subsided with treatment by the Elliott method and sulfathiazole.

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For twenty years we have had the guinea pig plan of treating patients, the name, the personality, the previous history and environment meaning too little. Some doctors prided themselves on operating on a patient and not seeing him again, just reading the charts and governing the treatment accordingly, hardly stopping to consider that the nurse who kept the record may have fixed it up after she came in near daybreak and that she actually knew little about the real condition of the patient. There seems to be a tendency in the army this time to concentrate on the sick person as well as to study his disease. If this be true, praise the Lord and let us hope that finally real medical service will be passed out to the masses in effective form. No doctor can intelligently treat a sick person who does not know him in all of his relations to life from the beginning and maybe a few generations before he was born. The latest in the practice of medicine, it would seem, is a return to individualized treatment—in terms of people instead of an abstract number. Let us hope that this "new" conception will carry through to our schools, to farming, to factory life, to democratic practices, to religion, and that ultimately we shall build personal and national health assets of lasting value.

We deeply regretted our inability to attend the annual session of the New Orleans Graduate Assembly March 15-18. Reports are that the meeting was excellent, the attendance fine, and the interest deep and sincere. The doctors of New Orleans are really behind this assembly and we offer our congratulations to them in going right ahead with their meeting. They have the right idea. It is no time to freeze medical information. Some doctors and hospital heads have the wrong idea about patriotic duty as we see it. Now is the time to stick to our organizations and go forward whether or no. We should be willing to make some sacrifices to continue the dissemination of new medical information. It was almost a tragic mistake to pretermit our Mid-South Postgraduate Medical Assembly at Memphis. We should have kept the faith, held fast to our great medical course and fulfilled our duty to the profession and to the people. The latest in medicine is needed worse now than ever before. Frills and the highly technical details may give way to the heart of only proved medical information which may be served to the profession in simple and plain form.

The first quarterly meeting of the Northeast Mississippi Thirteen Counties Society was held in Tupelo March 9. Dr. B. C. Tubb, president, of Smithville presided in creditable style. The efficient secretary, A. J. Stacy, was on the job as usual. Dr. Pelouze was the guest speaker, both at the scientific session and at the banquet. His discourse on gonorrhea was the best we have yet heard. It was good to have him. The state is under obligations to the State Board of Health for bringing him to us and sponsoring his itinerary. Reports over the state indicate that his program was well attended and heartily received.

We hope our subscribers in the Mid-South will renew their subscriptions to the MISSISSIPPI DOCTOR at an early date. It is true that we will not have the usual Mid-South addresses this year, but we will have good papers. Your confidence will be greatly appreciated. Some of our readers may prepare good papers which we shall be glad to publish. This journal discusses medical problems, and it wants you to share in these discussions.

Our state medical meeting is on the way. It is to be streamlined a bit, but it will be good. Make your arrangements now to attend.

WAR CHALLENGES THE GENERAL PRACTITIONER

Under the stress of war it has been observed that conditions favor the spread of pulmonary tuberculosis. Probably an increase in the disease has not occurred to date in this country as a whole, but a rise has occurred among other belligerent nations and in some of our own industrial centers.

Increase in prevalence and mortality can be traced to inadequate diet, insufficient institutional facilities and medical care, lowering of resistance from apprehension and disturbed rest, and overcrowded and poor housing in areas of concentrated war industry.

Since the disease appears on the increase in countries at war longer than ours, it must be assumed a similar trend is to be anticipated here. This calls for early diagnosis, hospitalization of active cases and discovery of infective contacts. Greatest hope for success lies in the interest and coöperation of the general practitioner. He sees the patient early and through his intelligent effort will come early diagnosis, prompt isolation and the investigation of contacts. Toward this goal we shall indicate a path for the practitioner, who, deprived of many a colleague, finds his problems multiplied and his strength and time in no wise reinforced.

Usually it is easy for a tuberculosis specialist to make a diagnosis once the suspect has been singled out by the practitioner. More difficult is it for the latter to give due consideration to tuberculosis—only one of many conditions that may assail his patient.

For example, cough is the most common symptom of the disease. In one with a history of previous acute pleurisy, chronic cough is very suspicious. Nevertheless, the disease may be present without it, and most agree that cough or any other *symptom* is a relatively later, not an encouragingly earlier manifestation of pulmonary tuberculosis. If we persist in describing tuberculosis in terms of symptoms, we might as well omit further discussion of *early* diagnosis, even though we admit that knowledge of classical symptoms is essential if we are to have tuberculosis in mind when we encounter those less fortunate cases long past the stage when early discovery was possible. These symptoms include fatigue, particularly in the late afternoon, loss of weight, low-grade fever, chest pain and hemoptysis.

If tuberculosis is to be found preclinically or at onset of its earliest symptoms a thorough, practical and economical plan of attack is necessary. Weapons at hand include history, physical examination, tuberculin test, sputum examination, x-ray and fluoroscopy.

Tuberculosis specialists generally feel that the greatest deterrent to early diagnosis by the practitioner is the expense of x-ray examination. If it were as easy to x-ray the lungs as to do a physical examination many more early cases would be found. Where x-ray facilities are handy it is simpler to take a picture and study it than to do a physical examination, which, though thorough, may fail to disclose the trouble. Most practitioners lack office x-ray facilities, but the truth remains there is no substitute for a good x-ray picture. Today, in all but the most rural communities, arrangements can be made for x-ray of the chest in the indigent as well as in others.

Physical examination may uncover rales, breath sound changes, etc., but their absence does not mean absence of tuberculosis. In every sanatorium are patients with far advanced disease who have been told by their family doctors that no signs of tuberculosis were present. Similar oversight may occur in some early cases when symptoms are present as well as positive x-ray findings. This is no reflection upon the skill of the physician but proves that symptoms and x-ray evidence are often present before definite physical signs of tuberculosis develop.

Fluoroscopy, even in the hands of experts, is not as accurate as film methods in diagnosing tuberculosis. Serial pictures, too, give better clues as to the progress of lesions than mere observations of the clinical record.

The tuberculin test, variously conducted, is of value in the process of screening groups or studying individuals. A positive test shows that the skin has been sensitized by previous or present tuberculosis infection. It does not prove that active pulmonary disease is present, but does call for an immediate chest x-ray. A negative test, conversely, is almost conclusive that active tuberculosis does not exist. There are exceptions to this statement, but they are rare.

Sputum examination is vital. A positive sputum leaves no doubt that active disease is present, but a negative sputum is no guarantee of its absence. There may be relatively few bacilli in a sputum sample; improper collection may provide saliva instead of thick material truly expelled from the lung by a spell of coughing; or too few samples may be examined. Reinforcing the simple smear are concentration methods, culture or guinea pig inoculations, and examination of the fasting gastric sediment in those swallowing their sputum.

Tuberculosis cases should be reported promptly to the public health authorities who assist in determining their disposition.

Many practitioners are not interested in treating tuberculous patients. Others feel they see cases so rarely that they would welcome assistance by experts. Sanatorium care, if available, promises conditions ideal for treatment and training of the patient and protection of his family and friends.

People who contract pulmonary tuberculosis usually do so because of intimate exposure to someone with a positive sputum. Thorough search is made in the patient's household and among his other associates, each being tuberculin tested and the positive reactors x-rayed. Obviously the x-ray, if showing nothing at first, should be repeated at four-month intervals for several years, as breakdown may be slow to appear.

Many counties have well organized tuberculosis associations whose nurses serve as field workers. Granted this aid, the social side of the problem can be handled with personal home interviews, transportation of the patient to the sanatorium or clinic and of the contacts for testing and x-ray. Tuberculosis workers are well trained and function to give the practitioner able service and advice about the disposition of the case, the adjustment of the family and in follow-up of the patient once he leaves the sanatorium.

The family doctor should coöperate with those who have directed the treatment when he receives back the discharged case. Rehabilitation in these people is complex and important. Many sanatoria have personnel specially trained to instruct patients in occupations they will be fitted to carry on after their cure, or to prepare them for the special problems facing them upon their return to society. The family doctor must continue his interest through both treatment and rehabilitation periods, with periodic check-up, assurance and advice.

The greatest contribution the general practitioner can make in the field of tuberculosis in wartime is the intensification of his peacetime effort, keeping the disease constantly in mind and remembering that the ultimate ideal in controlling tuberculosis would be to have every adult x-rayed annually.

General Practitioner's Role, Paul Geary, M.D., Bulletin of the National Tuberculosis Association, March, 1943.

One can hardly doubt that we are in the midst of world-wide change that might be classed as universal revolution. Only nature's laws remain unchanged. The thought is better expressed by Holy Writ where in it is said, "God is the same yesterday, today and forever." Beyond this and the depravity of mankind, change is constant. So I am perturbed and distressed when I allow myself to think of the changes that confront us in the immediate future. This war can not go on for any great length of time. Modern war is tremendously expensive. Men can not fight without sustenance. I have felt that peace would come, only, when *all* the resources of the entire world should have been exhausted—I still believe this. How long, at the present rate of expenditure before the world will be bankrupt? After that, what? Civilizations spring up and pass away. Do we face another dark age? I wonder if each succeeding civilization has been superior to those preceding. Life is so short and time is so fleeting that one is prone to say, why give such questions thought? Why not forget the past and ignore the future, since the present is all we can claim as our own? But when we give closer thought to the matter, we must know that there is no such division of time as the present. What we call the present is but an imaginary line where past and future meet. When we arbitrarily designate a certain period of time as present and devote this time to dreams and plans, in a moment it slips by and is lost in the past. Only the future is left for accomplishment and no one can claim the future as his own. Even so, I am lost in wonder and filled with deep concern, when I think of the future of medicine. The advances made in medical science during the last half century should fill every doctor's breast with pride. And yet the colossal ignorance that yet prevails is depressing. Shall we be able to continue to advance or shall we not? With one third of the doctors in active service will those left to care for the sick at home (many of whom are old and decrepid) have energy and interest enough to press forward, or will they fall asleep on watch? The tendency to pretermit associational meetings leads me to fear the worst along these lines. By all means let us not miss an opportunity to further the interests of our medical societies. We simply must not allow our organization to lapse; for when the war is over and a new state is builded, I fear that medicine will become another political cog in the machinery of state.

But, so far as progress in medical science and thought are concerned, I feel that much will have come out of the war. Even now the mortality has been greatly reduced at the front. While the question of shock is still not fully understood, it seems that much has been done to lessen the danger from this cause. Again the use of the sulfonamides has saved from infections many lives that formerly would have been lost. Our doctors in the service will learn much about tropical and other diseases that they might never have given serious consideration. This is now important since there will be more of that kind of trouble in our country after our men come home. There has been discussion of the matter of shortening the course of medicine in our colleges because of the need for more doctors. I do not endorse this plan, but I do feel that medical teaching should be fostered and paid for by the state—at least the cost partly met by the government. This is, in my thinking, just as reasonable and necessary as for elementary schooling. No one would be so bold as to object to free schools for our children now—even free books are here to stay. I feel that Dr. Parran's anti-venereal program is very timely, since there has always been great spread of these diseases in the wake of war. And when we consider the fact that much of the blindness in the world as well as most of the pelvic surgery done for women is the direct result of gonorrheal infection and that a large percentage of cardiac deaths is caused by syphilis, it is high time that control efforts be increased. I am glad that a good man has been sent to Mississippi to help arouse interest in this matter as well as to promulgate the latest teaching. And I urge every doctor in the state to avail himself of the opportunity to hear these lectures on gonorrhea. It is heartening to know that our women are becoming deeply interested in this undertaking. Why should it be otherwise since they and their babies are the greatest sufferers from this scourge? So let us redouble our efforts to keep organized medicine intact and to further every effort to increase medical knowledge both within and without our ranks.

—G. S. B.

Our Doctors in the Service

THE SURGICAL CLINIC OF DR. LAWRENCE W. LONG HAS GONE TO WAR

Colonel Lawrence W. Long, B.A., M.D., F.A.C.S., organizer of the Lawrence W. Long Surgical Clinic in Jackson, Mississippi, is now a colonel and is State Director of the Mississippi Selective Service System. Colonel Long attended Millsaps and received his B.A. degree from Vanderbilt and his M.D. degree from the Vanderbilt University Medical School, graduating in medicine in 1927. He was a member of the Kappa Alpha, social; and Alpha Omega Alpha and Phi Chi, honorary medical fraternities. He served his internship at the Vanderbilt hospital and the Charity Hospital in New Orleans, Louisiana. He opened an office in Jackson in 1928 for the practice of medicine and established the Lawrence W. Long Surgical Clinic in 1940. He is a member of the Central Medical Society, the Mississippi Medical Association, the Southern Medical Association, a Fellow of the American Medical Association, a Senior Fellow of the American College of Surgeons, Senior Fellow of the Southeastern Surgical Congress, and member of the State Board of Health. He served as president of the Mississippi Baptist Hospital Staff in 1936, president of the Central Medical Society in 1939, and secretary of the Central Medical Society from 1936-1939, and was instrumental in inaugurating the one-day postgraduate meetings sponsored by that organization. He also served as vice-president of the Mississippi State Medical Association in 1937, chairman of the Surgical Section of the Mississippi State Medical Association in 1939, councilor for the Fifth District of the Mississippi State Medical Association, and state editor of the MISSISSIPPI DOCTOR since 1938, and president of the Postgraduate Medical Assembly in 1939. He has published many timely articles on various subjects.

He married Anne Wright in 1929 and has two children, Lawrence Wilburn Long, III, and Cornelia Bonney Long, ages ten and seven.

He received his R.O.T.C. (Junior) training in 1923-24, and his advanced course in R.O.T.C. training at Carlisle Barracks where he received citation for meritorious service. He was commissioned first lieutenant in 1927. He was promoted to a captain in 1930, and to a major in 1936. He was appointed state medical officer of the Mississippi Selective Service System in October 1940. He was appointed acting state director of the Mississippi Selective Service System May 25, 1942, and state director of the Mississippi Selective Service System August 25, 1942. He was promoted to a lieutenant colonel on June 8, 1942, and a colonel on December 24, 1942.

He is a member of the Methodist church, a 32° Mason and Shriner, a charter member of the Jackson University Club, a member of the Jackson Country Club, and a member of the Jackson Chamber of Commerce.

Major J. Gordon Dees, B.S., M.D., F.A.C.S., formerly associated with Dr. Lawrence W. Long, is now a major in the Medical Corps and is surgeon stationed at the Station Hospital, Muskogee Air Base, Oklahoma, as commanding officer of that medical unit.

Major Dees received a B.S. degree from the University of Mississippi and his M.D. degree from the University of Tennessee, graduating in medicine in 1933. Internship, assistant resident, and resident in medicine, pathology and surgery at the University of Tennessee and the University of Michigan were completed after seven years in 1940. At this time he was associated with Dr. Lawrence W. Long in the practice of surgery in Jackson, Mississippi.

He was commissioned a first lieutenant in the Medical Reserve of the United States Army in 1935, promoted to captain in 1940, in which capacity he entered active duty in 1941, and was promoted to his present rank of major about one year ago.

Major Dees married Opal Shake of Hickory Ridge, Arkansas, in 1936, and has one son, J. G. Dees, Jr., born on April 7, 1942.

Major Dees reported the first series of cases in which powdered sulfanilamide was used in the peritoneal cavity in the MISSISSIPPI DOCTOR, September 1940, "A Valuable Adjunct in Perforated Appendices." This article has been nationally recognized as the first such article published.

On November 3, 1941, Major Dees was made a Fellow of the American College of Surgeons.

Captain Boyd C. Edwards, B.S., M.D., formerly associated with Dr. Lawrence W. Long, is now a captain in the Medical Corps of the Army stationed at Station Hospital, Gulfport Army Air Force Technical Training School, Gulfport Field, Mississippi. He is now chief of section of medicine and officer in charge of pharmacy. From July 1942, when he entered the armed forces as a captain, to December 1942, he was the first registrar and dispensary officer of the hospital, commanded by Colonel Robert A. Strong of New Orleans, Louisiana.

Captain Edwards was born and raised in Jackson, receiving his B.S. degree from Millsaps College and his M.D. degree from Tulane University, New Orleans, Louisiana. Before being associated with the Surgical Clinic of Dr. Lawrence W. Long, he had practiced in Texas and at Edwards, Mississippi. Captain Edwards is a 32° Mason and Shriner. At the time of entrance on active duty he was handling internal medicine and obstetrics in the clinic.

Lieut. Comdr. Morton J. Tendler, who practiced medicine in Memphis 16 years, is senior medical officer in the Navy's Aviation Service Schools, Jacksonville, Fla. He was assistant professor of surgery at the University of Tennessee when he received his commission in September, 1938.

Dr. T. N. Humphrey, formerly of Selmer, Tenn., is with the Army Air Forces, stationed on Presque Isle, Maine. He is a first lieutenant.

News and Comments

Walter W. Robinson, M.D., formerly of the Crisler Clinic, announces the removal of his office to 1074 Madison Avenue (Madison at Somerville) Memphis, Tennessee.

The staff of the Street Clinic and the Vicksburg Sanitarium announces the association of Preston Street Herring, M.D., internal medicine.

The staff of the Street Clinic and the Vicksburg Sanitarium announces the association of Richard Henry Penstermacher, M.D., pathologist.

THERE HAVE BEEN RUMORS THAT PABLUM IS OFF THE MARKET

Pabena, the new Pablum-like precooked oat cereal, does not replace Pablum. Pabena is now marketed in addition to Pablum.

Pabena offers substantially all of the nutritional qualities of Pablum and all of its advantages of ease of preparation, convenience and economy. The base of Pabena is oatmeal (85%) which gives it a fine flavor and offers variety to the diet.

Both cereals are products of MEAD JOHNSON & COMPANY, Evansville, Ind.

LAUDERDALE COUNTY MEDICAL SOCIETY

Dr. K. O. Stingily, president; Dr. D. L. Walker, vice-president; Dr. Byron Alexander, secretary-treasurer; Dr. T. G. Cleveland, delegate to the state convention; Dr. Lamar Arrington, alternate, and Dr. W. W. Reynolds, censor, are the newly elected officers of the Lauderdale County Medical Society. Dr. William J. Anderson, retiring president, was host at the supper meeting held at the Lamar Hotel.

MEDICAL EXAMINATION NOTICE

The Mississippi State Board of Health will hold special examinations for license to practice medicine in the Robert E. Lee Hotel, Jackson, Mississippi, on April 7 and 8, 1943, promptly at eight o'clock. Examination fee $10.25. Bring or send certified copy of birth certificate.

Regular June examination postponed until September.

Examination on first two years, Wednesday, April 7. (Send or bring certificate for verification).

Examination on last two years, Thursday, April 8. (Send or bring medical diploma for verification).

If a student lacks a few weeks of finishing his course, he may take the examinations, but he must present a certificate or a statement from the dean giving the date his course is expected to be completed.

For application blank write to: Dr. R. N. Whitfield, Mississippi State Board of Health, Jackson, Mississippi.

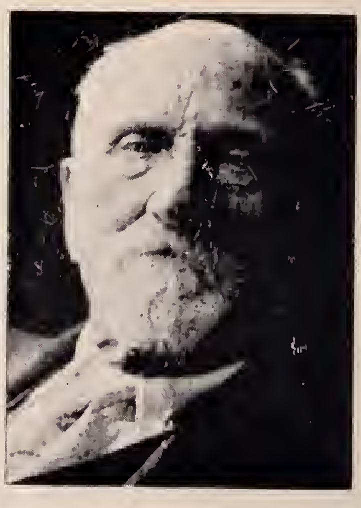
JOINT COAST MEETING

A joint meeting of the Coast Counties Medical Society and the medical staff of the station hospital, Gulfport Field, U. S. Naval Advance Depot and the Gulfport and Biloxi Veterans' Administration Hospital was held last month at Gulfport Field Hospital. About 200 physicians from Hancock, Harrison, Jackson and Stone counties were in attendance and there was a large representation from the Army and Navy groups. Commander O. B. Morrison, Jr., and Lieut.-Commander C. C. Sparks, executive officer, headed the group from the naval base. A buffet supper was served preceding the meeting.

Col. Robert A. Strong, post surgeon of Gulfport Field, was the principal speaker, talking on "Aviation Medicine," in which he stressed the importance of research of science in this new field of medicine. Colonel Strong also emphasized the importance of America in keeping the lamp of medical science burning in the blackout enforced in Europe.

A paper on "Blood Substitutes" by Captain Michael E. DeBakey, was read by Capt. C. F. Schroeder, and a paper on "Virus Pneumonia" was read by Capt. William Rosenblatt. Capt. LeRoy S. Kleinsosser was chairman of the program committee and Lieut. James T. Nix was secretary for the meeting.

DR. A. G. HENDERSON
Imboden, Arkansas



An Arkansas physician who can look over sixty-seven years of practice, and still refuses to retire from professional practice, is Dr. A. G. Henderson of Imboden, born September 12, 1851. He was graduated from Missouri Medical College, St. Louis, in 1876, and in 1887 received a degree from Bellevue Medical College, New York. In the meantime he had begun his practice at Walnut Hill, Ark., where he married Miss Frances Wright in 1878, and a few years later they moved to Imboden. There Dr. Henderson continued his practice, except for nine years when the family lived in Fayetteville, Ark., until the present.

Dr. Henderson recalls the four years of the Civil War, in which conflict two brothers were sacrificed, and the years that followed. Once he traveled 900 miles out into Texas to teach school before he could enter medical school. Saddlebags and horse and buggy days figured in the busiest decades of his practice, but he is optimistic, hoping he will even see the time when doctors may practice in their airplanes instead of automobiles.

Two other M's besides medicine sum up Dr. Henderson's three-quarters of a century of service—Methodism and Masonry. For nearly sixty-six years a steward in his church and nearly fifty-eight a teacher is a record for a layman.

All along his professional career are milestones of progress which he set up. He introduced the resolution to establish an annual memorial service in the Arkansas Medical Society; in 1912 he introduced before his county society the resolution asking for a vital statistics law, which was enacted the following year; he also took the lead in having the first county medical superintendent appointed to serve in his county, Lawrence County, Arkansas.

Dr. Henderson has found time through the years to travel, to read and to study; and he cherished one outdoor hobby — raising fine Arkansas peaches. He can recount planting several orchards which he took great pleasure in tending.

No doubt his own secret for longevity and usefulness is explained in keeping mentally and physically alert.

We met this medical patriarch last year at a medical meeting at Tyronza, the home of a distinguished past-president of the Mid-South, Dr. L. H. McDaniels. It was one of the finest meetings we have ever attended. It was an inspiration to see him and hear him talk, to observe his vigor of body, his alertness of mind, and feel the power of his purpose in life attuned to a Will greater than his own. It was easy to see that he was loved and revered by every doctor present. He has striven through Christian integrity to build the type of men and women who are badly needed just at this time, and who are and will be valuable in winning the war and sustaining the peace of the world. We trust that Dr. Henderson may be spared to round out his full century. He approaches our finest type of American citizen.

DISCUSSES LACHRYMAL OBSTRUCTION IN INFANTS

(*The following interesting contribution comes from Dr. E. C. Ellett, 1720 Exchange Building, Memphis, Tennessee*).

"I was very much interested in Dr. Staton's article in a recent number of the MISSISSIPPI DOCTOR, and especially the discussion of lachrymal obstruction in infants. Since by a comparison of experience we advance our knowledge, and since my experience with this condition differs from his, it might be interesting to relate it.

"The lachrymal duct is laid down in the unborn child as a column of cells, whose absorption leaves a tube. If the absorption of any part of this column is not complete, an obstruction results. It is generally stated that this obstruction is at the nasal end of the canal, and since the passage of a probe gives no sensation of an obstruction, it cannot be said that it enables one to locate the site of the obstruction. The obstruction can be overcome by probing, or by filling the sac with a fluid and pressing it down into the nose, thereby breaking through the cellular remains that cause the obstruction. It seems to me that the condition is self-limited, and will get well in time if nothing is done. Certainly, we see few, if any, adults who give a history of lachrymal obstruction since birth. It is easy to probe the passage, and since one probing usually cures the trouble, it is common practice to do this. It is fairly easy office procedure, done without anesthesia if the baby is rolled in a sheet and held. It has not seemed to me that repeated washings do any good unless the solution is forced into the nose, when the effect is the same as probing. Sometimes more than one probing is necessary, sometimes, many. False passages are a danger, but then one should be able to probe an infant's passage safely.

"Two points have come to my attention. One, that the small probes No. 1 and No. 2 of the ordinary set are too large. It is not the duct that is too small, but the punctum. I had a No. 0 and No. 00 size made, and they are better, but very delicate and limber. The second point is the advantage of using the upper punctum instead of the lower. It gives a more direct, and therefore, easier approach to the sac and duct. If the punctum is slit for a millimeter or two, a larger and stiffer probe can be easily used since the rest of the passage is much larger than the punctum. Gifford advocates this in his *Ophthalmic Therapeutics*. There are a few cases of bony occlusion, which require different treatment."

DR. SEALE HARRIS GIVES VIEWS ON STATE'S NEED FOR TRAINING INTERNS

(*Taken from address given in Grenada, February 23. See page 430*).

Before proceeding with my remarks on the life of Sir Frederick Banting, a benefactor of mankind, may I not discuss briefly what I believe to be one of the greatest needs of a neighbor state, i. e., a four-year medical school as a department of the University of Mississippi to teach and graduate Mississippians to practice medicine in their state. Patients from Mississippi often tell me of the really pathetic need for doctors in their respective localities. In the last week a lovely woman from Aberdeen said that there are only two active practicing physicians, one white and one negro, in that city of 6000 population. Another patient from Macon said that Noxubee County with a population of 25,000 has only five doctors, two of whom are not in good health. She said that these doctors are working night and day but at times it was impossible for her to see a physician. A patient from Tupelo now in a hospital in Birmingham said that three of the leading physicians in that city have gone into the Army, leaving only three active general practitioners and three nose and throat specialists to provide medical care for a city of 10,000 people and a large adjacent rural population. Patients from the rural districts of Mississippi say that some places they cannot get physicians under any circumstances.

The shortage of physicians in Alabama is as deplorable as in Mississippi. Why are there fewer doctors in proportion to population in Alabama and Mississippi than in any other two states in the union? Why are there more physicians in proportion to population in Georgia, Louisiana and Tennessee than in Alabama and Mississippi? I think that the most important reason is that Georgia, Louisiana and Tennessee each have two four-year medical schools, while Alabama and Mississippi each have two-year schools but none which graduates physicians.

I had dinner in Tupelo last night with a great Mississippi physician, Dr. Wyck Anderson, and his lovely wife, Mildred Paulk Anderson, editors of the MISSISSIPPI DOCTOR, the best state medical journal published in the United States. I wonder if Wyck Anderson is appreciated as much as he deserves to be by his Mississippi confrères? In my opinion he is a medical statesman, who, proud of being a general practitioner and a surgeon who knows his limitations, is giving everything that is in him, without one thought of self, to promote the welfare of the medical profession and the public. Dr. Anderson dreams all day of what he can do for his beloved state and he translates his thoughts into action. He talked to me last night of the need for a central state hospital of approximately 250 beds, which might serve as a medical center to which could be referred charity cases from various county hospitals in Mississippi. He said that a central state hospital could be utilized by the University of Mississippi as a teaching institution for the clinical years of medicine thus providing for the entire four years of medical education for Mississippi medical students. He then discussed the acute shortage of doctors in Mississippi, saying that fifty per cent of the general practitioners are over sixty years of age. What will happen in the next ten years when a large proportion of doctors sixty to eighty years of age will have shortened their useful lives by overwork and the hardships endured in old age when they should be enjoying the fruits of success in their profession?

Mississippians have just reason to be proud of the two-year medical school at Oxford, but Mississippi medical students have to go out of the state to complete their education; and most of them do not come back to their native state to practice their profession. Thus, Mississippi, like Alabama, spends its money to educate her young men to practice medicine in other states. Before the end of this year, the two-year medical school of the medical department of the University of Alabama will be supplemented by the establishment of an institution, probably in Birmingham, in which Alabama boys will be taught the two clinical years, thus graduating Alabama students in medicine to practice their profession in their native state. As one who is deeply grateful for the friendship of many Mississippians may I not express the hope that Dr. Anderson's dream of a central state hospital to be utilized for teaching the clinical years to medical students in your state may become true in the near future. I believe that the establishment of four-year medical schools in Alabama and Mississippi will help to solve our serious problem of providing adequate medical care for the people of both states.

RESEARCH AWARD AND MEETING CANCELLED

The $500 Research Prize offered by the American Urological Association will not be awarded this year. Also the June meeting of the American Urological Association in St. Louis has been cancelled.

PUBLIC HEALTH ASSOCIATION TO MEET

The Executive Board of the American Public Health Association announces that the Association will sponsor a three-day Wartime Public Health Conference in New York City, October 12, 13 and 14. The seventy-second annual business meeting of the Association will be held in connection with it.

The conference program will be devoted exclusively to wartime emergency problems as they affect public health and the public health profession.

MEDICAL MEETING DURING THE WAR

Mr. Stephen McDonough, Washington, in a letter to Mr. C. P. Loranz, Secretary-Manager, Southern Medical Association, just prior to the Richmond meeting of the Association in November 1942, said:

> "Last Friday I rode over from the Munitions Building to the new Pentegon Building with Dr. Vannevar Bush, director of Scientific Research and Development, and I mentioned the holding of scientific meetings in wartime. He said: 'Physics meetings? No. Chemical society meetings? No. Medical meetings? By all means they should be continued with even greater emphasis than before. We must preserve and disseminate advances in medical knowledge as never before.' If you need any better opinion than that I don't know where to find it."

Dr. Vannevar Bush, president of the Carnegie Institute of Washington, a research organization, was formerly president of the Massachusetts Institute of Technology, and is one of the greatest living electrical engineers.

Mr. Stephen McDonough covered the annual meetings of the Southern Medical Association for the Associated Press for six years prior to and including the St. Louis meeting in November, 1941. Since late summer of 1942 he has been serving his country as a captain, U. S. Army, Office of Chief of Ordnance, Washington.

NEW SULFONAMIDE PREPARATION FOR INTRANASAL USE ANNOUNCED BY SQUIBB

"Sulmefrin" is the name of a new preparation which E. R. Squibb & Sons has just released for intranasal use in the treatment of acute and chronic sinusitis and infections secondary to the common cold. The active ingredients of the new preparation are stabilized sodium sulfathiazole sesquihydrate and a vasoconstrictor, di-desoxyephedrine.

Sulmefrin may be administered by spray or drops, 5 to 10 minims into each nostril, two to four times daily; or by tamponage, 20 minims on each pack, applied for 15 to 30 minutes once a day.

Sulmefrin has undergone an extensive clinical study by qualified physicians over a period of many months. These studies indicate it to be a product of great value for the intranasal treatment of chronic sinusitis and upper respiratory infections. The preparation contains sulfathiazole sodium (sequihydrate equivalent) 2.5 per cent; di-desoxyephedrine hydrochloride 0.125 per cent; with 2.0 per cent anhydrous sodium sulfinite as a preservative. Sulmefrin is supplied in 1-ounce bottles and in 1-pint bottles.

Remember May 11-12 is the date of the annual meeting of the Mississippi State Medical Association. An interesting program has been prepared.

3,353 physicians died in the U. S. during the year 1942, 48 died while in the army, 47 suicides. The average age at death was 65. The medical schools graduated 5,163.

Since Dr. Vandergrift's departure, Dr. H. H. Rutledge of the Tate County Department of Health, assisted by Dr. T. K. Chandler of Tunica County Health Department, have very ably and acceptably carried on the work in DeSoto County.

A milking machine for mice is being used at the National Institute of Cancer Research at Bethesda, Maryland. It is not because of the labor shortage in this case. There is just no one who has hands small enough for milking a mouse. The Institute is studying the transmission of cancer through milk. A mouse gives about one-fourth thimbleful of milk per day.

Dr. Rufus W. Hooker, who for many years lived in Memphis before commencing his services on United States transports, is the author of *Ship's Doctor* which will be released by the publishers at an early date. This record of his wartime experiences will be most interesting.

Dr. Hooker has a son in Memphis and a sister in Senatobia, Mrs. Sam C. Stevens.

On January 27, 1942, impressive dedication ceremonies were held for the opening of the Kennedy General Hospital in Memphis, named for Maj. Gen. James M. Kennedy, once surgeon general of the United States Army. General Kennedy's widow and daughter were in attendance. Brig. Gen. Reynolds is the commanding officer. There are 61 substantial brick buildings, soon to be one of the largest medical centers in the country. The hospital is modern in every respect, inside and out and in its equipment.

Dr. James B. Stanford, president of the Tennessee Medical Association, welcomed the staff of the hospital and expressed his admiration for Army medical service, saying: "The whole world owes a debt of gratitude to the Medical Corps of the United States Army."

A secondary but interesting feature noted was that the contractors had cheerfully incurred expenses not in the contract in order to complete the first unit on schedule.

Casualties from the campaign in Guadalcanal and Solomon Islands have begun to arrive at the hospital.

PLANS LAID FOR STATE MEETING

The Central Medical Society met March 26 in Jackson and made plans for the annual meeting of the Mississippi State Medical Association to be held at the Heidelberg Hotel in Jackson, May 11-12. The general sessions will be held in the Victory Room, sections in the Rose Room, exhibits in the Silver Room and around the mezzanine floor. Committee chairmen are as follows:

Col. Lawrence W. Long—General Arrangements

H. F. Garrison, Sr.—Honorary General Chairman

J. A. Milne—Information

J. W. Lipscomb—Luncheons

D. W. Jones—Finance

H. C. Ricks—Entertainment (President of the Central Medical Society)

J. G. Thompson—Secretary
George Owens—Radio
F. E. Werkheiser—Publicity
T. H. Blake—Program
H. C. Sheffield—Membership
G. C. Russell—Hotels
Mrs. James Grant Thompson—Ladies' Entertainment
George E. Adkins—Golf and Hobbies
O. A. Schmid—Alumni Reunions
W. L. Hughes—Transportation
Dr. John B. Howell, Canton—Host

DESOTO COUNTY

The officers of the DeSoto County Medical Society for 1943 are Dr. C. W. Emerson of Hernando, president; Dr. J. M. Wright of Hernando, vice-president; Dr. L. L. Minor, Rt. 4, Memphis, Tenn., secretary-treasurer; Dr. D. C. Funderburk of Olive Branch, Dr. A. V. Richmond of Lake Cormorant and Dr. A. L. Emerson of Hernando, censors.

At the April meeting, Dr. C. W. Emerson, the president, will be the host at seven o'clock dinner followed by a business session.

The doctors of this county, as elsewhere, are doing everything within their power to assist the nation in winning this global war.

From the pamphlet, *From Dangerously Menaced*, we extract the following:

"The reason for—

"Our highest level of health ever known; our lowest death rate for any comparable number of people; the tallest, heaviest, toughest soldiers ever found in the army of any country is that:

"In the United States, sole and exclusive responsibility for the health and physical wellbeing of all the people has been placed upon the medical profession—upon a group of men trained in the science of medicine, skilled in the art of healing and dedicated, by tradition and binding oath, to unselfish public service."

Anyway, our purpose shoulld be to carry on in the highest and best way we are capable, doing all the good we can and neglecting nothing worth whille.

L. L. M.

Laurence L. Quill, head of the Department of Chemistry, University of Kentucky, in an address in Memphis recently stated, "I see in the steadily decreasing number of chemistry students a problem which will have to be solved as speedily as possible for the needs of war as well as of peace. It takes from four to eight years to develop competent chemists."

Paul V. McNutt, chairman of War Manpower Commission, recently said rationing of medical service may be needed to offset the loss of tens of thousands of doctors and nurses to the military forces. Mr. McNutt further said, "The best way to meet the emergency would seem to be to exercise some control over the movement of the physicians both into and out of civilian practice, plus more pooling of medical services, hospital facilities and nurses in the community." Most of the states have met their quotas for military doctors and a few physicians have been transferred to other communities for civilian practice.

ESSAY AWARD

The National Society for the Prevention of Blindness announces that a prize of $250 will be awarded for the most valuable original paper during 1943 adding to the existing knowledge about the diagnosis of early glaucoma. The award will be made by the Society with the guidance of an ophthalmological committee composed of Dr. Arnold Knapp, Dr. Manuel Uribe Troncoso and Dr. Mark J. Schoenberg.

Papers should be in the office of the National Society for the Prevention of Blindness, 1790 Broadway, New York City, by September 15, 1943.

The duty of the physician toward the child in wartime can be summarized briefly. It is to meet the increased hazard of physical and mental disease by not only doing our present job, but by intensifying our work of education and prevention in all its phases. Never before in the world's history have children been cared for so well. It would still be a tragedy to win a military victory and find our children's standard of health lower than when we were attacked.

—Lloyd B. Diskey, M.D., of California

Deaths

Dr. Van Buren Martin, 76 years old, physician and surgeon in charge of Martin Sanatorium and alderman of ward one of the city of Picayune, died in Touro Infirmary in New Orleans where he had been a patient and where he received his medical degree in 1898.

Dr. Martin, resident of Picayune for more than twenty-five years, was active in business and civic circles. He was the examining physician for the selective service system for local draft board number one of Pearl River County, member of the board of stewards and board of trustees of the First Methodist Church, former president of the Rotary Club, former bank director, in addition to being a member of the Medical Association and Mississippi Medical and Hospital Association he was actively associated with his profession until about a month ago.

Surviving are his widow, Mrs. Rosa Simmons Martin, four children, Mrs. Mavis Vaughn, Beverly Martin of Mobile, Alabama, Mrs. Sue Godard, Picayune, Miss Sue Martin, Women's Army Auxiliary Corps, Fort George Meade, Maryland, and five brothers, Thomas and C. C. Martin of McComb, W. A. Martin, Hollandale, R. L. Martin, Hammond, La., and E. L. Martin, Indianapolis, Ind.

Major Charles LeBaron, 50, retired physician, who died at the Veterans' Facility in Biloxi was buried March 6 in Arlington Cemetery, Washington, D. C., with military honors.

Major LeBaron had resided in Gulfport the past four years. A sister, Mrs. Mary LeBaron Paine, Mobile, survives. He was a native of Mobile and the son of the late Dr. Charles LeBaron and Sarah Roberta "Zaidee" Evans LeBaron.

He was educated at Spring Hill College and University of Alabama Medical School and entered the army a year after his graduation. He served during the World War and held two foreign assignments——Panama and the Philippines.

Dr. LeBaron was born in Mobile, Ala., and received his medical education at the University of Alabama, Tuscaloosa, where he was graduated in 1914. He was a major in the Army Medical Corps during the World War I, and since that time practiced in Washington, D. C., Carlisle Barracks, Pa., and Gulfport.

He was injured in an automobile accident eight years ago at Fort Sam Houston, Texas, and was subsequently retired from active service. He was a fellow of the American Medical Society and also a member of the American Legion.

Dr. Neulan B. Smith, aged 72, died at his home in Ellisville February 22. Dr. Smith was a prominent physician in Laurel during the years 1900 to 1917, when he moved to Ellisville to assume the practice of his brother, the late Dr. S. O. Smith. At the time of his death he was retired.

While he was a resident of Laurel, Dr. Smith was a member of the board of aldermen of the city, serving conscientiously for several years. He was a member of the board of trustees of the Laurel city schools and worked faithfully to improve school conditions. Dr. Smith and the late Dr. J. H. Cook formed a partnership.

Dr. Smith was a devoted member of the Ellisville Baptist church and served as a deacon until his death.

He is survived by his wife; five daughters, Mrs. Ray Brigance, Mt. Olive; Mrs. Frank Black, Ellisville; Mrs. W. C. Vinson, Stover; Mrs. A. F. Burns, Ocean Springs; and Miss Ada Smith, Ellisville; two sons, Harmon Lee Smith, Ellisville, and Charles Smith, Gloster.

On January 27, 1943, while on duty as captain in the United States Army Air Force at Columbia, S. C. Dr. W. Arthur Vandergrift was instantly killed when the plane he was in caught fire and all the occupants were killed.

In the November issue of 1940, the *Mississippi Doctor*, DeSoto County column, carried a brief autobiography of Dr. Vandergrift. He was born April 13, 1914, in Birmingham, Ala., moved to Memphis, Tenn., where he was educated and graduated from the medical department of the University of Tennessee in June 1939.

He interned at Charity Hospital, New Orleans.

He joined the Mississippi State Board of Health July 1, 1940.

On September 1, 1940, he assumed the directorship of the health department of DeSoto County and served most capably until he entered the Army a few months ago.

He was a member of the DeSoto County Medical Society, which membership automatically made him a member of the Mississippi Medical Association and the A.M.A.

He was a Rotarian, and while at college was a Phi Delta Sigma.

His wife, Jean McKnight Vandergrift, his parents and brother live in Memphis.

His remains were interred in Memphis Memorial Park.

Funeral services were held March 3 for Dr. Neill H. L. Reeves, of Zachary, La.; Mrs. J. R. Hillman, of College Station, Texas; Mrs. M. D. Wickerham, of Jasper, Texas; Mrs. L. G. Turney, of Louisville, Ky.; Miss Eunice Buie, of Jackson; N. H. Buie, Jr., Henry Buie, 76, prominent Fayette physician, church and Masonic leader for many years.

Dr. Buie received his medical degree from Tulane University in 1890 and had practiced in Fayette for 52 years. He was an elder in the Presbyterian church and an active member of the Masonic lodge.

Surviving are his widow, Mrs. Tennie Lee Buie; seven children, D. H. Buie, of Abilene, Kansas; Mrs.

of Vicksburg; one brother, Duncan Buie, of Caseyville, and nine grandchildren.

North Mississippi lost one of its outstanding civic and professional men when Dr. Hugh Lewes Murphy died Feb. 20 in Indianapolis, Indiana. Dr. Murphy, 60 years of age, resided in Arkabutla.

He is survived by his wife, the former Miss Mosie Campbell, two sons, James Garnet and Hugh L. Murphy, Jr., all of Arkabutla; a brother, W. A. Murphy of Luxahoma and two sisters, Mrs. J. Albert Still of Senatobia and Mrs. S. D. Billingsley of Luxahoma.

Dr. Murphy was a director of the Bank of Coldwater and recently completed several years' service as a trustee of Northwest Junior College at Senatobia and was chairman of the Arkabutla school board. He was a Mason and Shriner, and a steward of the Arkabutla Methodist Church.

Dr. Murphy was graduated from the Louisville Medical College, Louisville, Ky., in 1905.

Dr. Eliam B. Burns, prominent Pontotoc County physician, died at his home at Ecru Feb. 12, following an illness of pneumonia and rheumatic fever. He was 59 years old.

Dr. Burns was born in Waldron, Arkansas, and moved to Itawamba County when a young man. He attended public schools of that county and George Roberson College. He received his medical degree from Vanderbilt in 1915.

He began to practice medicine in Itawamba County. He served two years on the staff of the state hospital for the insane at Jackson, and from there went to Bolivar, Tenn., where he served two years in the state hospital.

In 1919 Dr. Burns moved to Ecru, and since that time has been a practicing physician there and a civic leader for 25 years.

He is survived by his widow, and two sons, Robert W. Burns, a pilot in the United States Air Corps, and Dixon Burns, a medical student at Vanderbilt University. Another son, Lieut. E. B. Burns, Jr., was killed in a plane crash in Texas in April, 1941.

He had seven brothers, Millard, John, Dr. Ellis, Lee, Wheeler, Leonard and Walter Burns, and seven sisters, Mrs. Dora Wilson, Mrs. Omar Blizzard, Mrs. Minnie Majors, Mrs. Ruth Griffin, Mrs. Uada Chittom, Mrs. Maggie Key and Mrs. Laura Felker.

Dr. J. B. McElroy, 76, a leading Memphis physician for more than 38 years, died March 24.

Dr. McElroy, recognized in medical circles as an outstanding diagnostician and consultant, retired from active practice nearly a year ago because of failing health. For the past eight months he had been inactive.

Born at Columbus, Miss., in 1866, he attended the public schools there, graduating from Franklin Academy.

Receiving his B.S. degree from the University of Mississippi in 1885 and his Ph.D. in 1888 he practiced medicine for a short time at Stovall, Miss. He studied at the College of Physicians and Surgeons, Baltimore, in 1893.

Dr. McElroy continued his study at Johns Hopkins University in 1899 and 1904. The latter year he relinquished his practice at Stovall to come to Memphis. He married the former Halle Mai Kilpatrick of Mississippi in 1896.

From 1908 to 1913 he was president of faculty and chief of Division of Pathology and Bacteriology at the Memphis Hospital Medical College. From 1913 to 1940 he was professor of medicine at the University of Tennessee. He served as chairman of the faculty of the school of medicine from 1922 to 1926.

He was chief of the division of medicine at the University from 1922 to 1939. In 1927 he was appointed to the college Board of Trustees to succeed the late C. P. J. Mooney. He held that post for two years. He also served as chief of staff at John Gaston Hospital from 1922 to 1939.

Dr. McElroy was particularly known for his early work in malaria.

July 1, 1939, he resigned from the University of Tennessee faculty to devote his time to private practice and research. Last year he assembled all his papers and gave a copy of them to the University of Tennessee library.

Dr. McElroy was a member of Beta Theta Pi fraternity and was a Methodist. He was a former secretary of the medical section of the American Medical Association; former governor of the American College of Physicians; a member of the Memphis and Shelby County Medical Society (past-pres.); Tennessee State Medical Association (past-pres.); Southern Medical Association; American Medical Association (orator); American Society of Tropical Medicine; and the Mid-South Postgraduate Medical Assembly (past-pres.).

He leaves his wife; a son, Capt. James Warren McElroy of the Army, and two nieces, Mrs. Hubert Hardaway of Bowling Green, Ky., and Mrs. M. Kilpatrick of Memphis.

Book Reviews

The twelfth edition of the United States Pharmacopoeia is off the press. One hundred and sixty new drugs and medicinal preparations are listed, totaling 659. Some items heretofore listed are discontinued. Pharmacopoeial standards are recognized by federal and state acts as the basis for law enforcement. High and exacting standards of the U. S. P. insure proper potency and value for its medicines.

ENDOSCOPIC PROSTATIC SURGERY, by Roger W. Barnes, M.S., M.D., F.A.C.S., Prof. of Clinical Urology, College of Medical Evangelists; Chief of Urology Service, White Memorial Hospital, Los Angeles, Calif. 233 pp.; 104 illustrations. Published by C. V. Mosby Company, St. Louis. Price $6.00.

No reliable reference has been published in book form on endoscopic prostatic surgery until Dr. Barnes prepared this monograph. The operation of transurethral prostatic resection is a surgical procedure until recently only attempted by men of extensive urologic experience. And even yet the procedure is new enough that the general practitioner does not feel that he can afford the risk of experiment. However, his practice constantly demands the use of a method to relieve urinary obstruction from hypertrophy of the prostate, and Dr. Barnes' presentation will be genuinely welcomed.

The author's own years of experience in the urological field have influenced him to emphasize two factors as much as the actual surgical procedure—preparation of the patient, and meticulous aftercare. He goes into those two phases with classroom rigidity, first presenting the anatomy, careful details of examination and recognition of indications for surgery, then important steps in the postoperative care. The technique of the actual operation includes a detailed consideration of the use of the Stern-McCarthy electrotome. Other accepted procedures are discussed. Complications and sequelae are also covered adequately.

In the reviewer's opinion, for the clearest guide in transurethral urology, Dr. Barnes' monograph will be of inestimable help to the general surgeon.

SYNOPSIS OF TRAUMATIC INJURIES OF THE FACE AND JAWS, by Douglas B. Parker, M.D., D.D.S., Assoc. Prof., School of Dental and Oral Surgery, Columbia University, New York. 334 pp., 229 illustrations. Published by the C. V. Mosby Company, St. Louis, Mo. Price $3.50.

This little book, another of the excellent series of synopses which Mosby has been publishing in uniform size and binding, is written with a definite timeliness. Hardly one of the three major face and jaw casualty fields could be minimized—automotive accidents, military casualties, or industrial accidents.

The author undertakes a brief introductory of the anatomy of the face and jaws, first aid measures, treatment for shock and control of infection, before he takes up specific injuries and the handling of fractures. The book is clear, unusually helpful illustrations accompanying the text.

Traumatic Injuries of the Face and Jaws would be an important emergency reference in peacetime, but it is especially worthy of a place on the general surgeon's bookshelves now when highway and industrial accidents exceed battlefield casualties.

WAR MEDICINE, a symposium, published by Philosophical Library, New York, with Wingfield Scott Pugh, M.D., Commander U. S. N., Retired, formerly Surgeon City Hospital, New York; and Dr. Edward Podolsky, Associate Editor; and Dr. Dagobert D. Runes, Technical Editor.

Thirty-three outstanding men have contributed articles on the many phases of this subject. Dr. John J. Moodhead and Dr. Chas. Gordon Head wrote chapters on war wounds, and surgery of abdominal injuries respectively.

Under aviation and naval medicine ten different subjects are ably discussed by this many outstanding army surgeons and doctors. The principles of aviation medicine, physiology and high altitude flying, the newer cardiology and aviation medicine, high altitude flying and deep sea diving, and fatigue in air craft pilots, are among the new and interesting subjects presented.

On general medicine in this book of 565 pages with numerous illustrations, fourteen contributors are listed on this many subjects. The recognition of and first-aid treatment of "gas casualties," nutrition of the soldier, protective foods, painful feet, chigger bites, night blindness, cardiovascular examination of the army recruit, are subjects that should interest any doctor. When one reads this book, ably written and ably edited, it gives one the feeling that the medical profession is really doing its part for world democracy and freedom. The instruction contained in it is not confined to military use; much of it can be applied in civil practice. Read this book for increased medical knowledge and a stimulated pride in the profession. Send your order to The Philosophical Library, Inc., 15 East 40th Street, New York, N. Y.

UNDERSTAND YOUR ULCER by Berrill B. Crohn, M.D., Columbia University, a manual for the ulcer patient, is published by Sheridan House, New York. Price $2.50.

This little book should certainly be read and reread by every practitioner and by every ulcer patient. It is hard to believe that so much valuable information could be put in one little book of 199 pages. It is estimated that about fifteen per cent of our population now have ulcer. In this book the author describes the typical ulcer case, defines ulcer, discusses the cause, tells of the type of person who is susceptible to it, discusses the x-ray examination, the symptoms, complications, the medical and surgical treatment, and gives full consideration of the problem of ulcer. Eighty pages of the book are given to a discussion of diets, medication, vitamins and conduct of the treatment in general, naming foods to be avoided. The author believes that duodenal or gastric ulcer can be cured, but insists that the ulcer patient needs to learn how to rearrange his life for the duration, avoiding the war of nerves, colds, coughs, excess, alcohol and smoking.

When you start studying this book, you will not want to stop until it is finished. It is so full of information, written in such a simple and interesting manner and so timely, the practitioner can feel that he is getting somewhere with his study and treatment of ulcer patients.

Mississippi State Medical Association

Organized 1867

Next Meeting: May 11, 12, 13, 1943

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Dr. Leon S. Lippincott, Vicksburg
James Grant Thompson, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p.m.
Alcorn	Dr. J. R. Hill	Dr. William David May	Third Friday 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central	R. B. Austin, Forest	J. G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne	W. N. Jenkins, Port Gibson	G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Lambert	G. R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	J. C. Runell, Jr., Cleveland	Sec. Wed. April & Oct., 2 p.m.
Desoto	C. W. Emerson, Hernando	L. L. Minor, Rt. 4, Memphis	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Philadelphia	N. C. Knight, Meridian	Quarterly
Franklin	Linfield Costley, Meadville	R. Costly, Meadville	
Issa-Shar-War.	H. H. Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	B. R. Clark, Lorman	W. T. Harper, Fayette	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	J. C. Culley, Oxford	A. H. Little, Oxford	3rd Wed., Jan., April, July, Oct.
Northeast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mar., June, Sep., Dec.
Pike	W. F. Cotten, McComb	W. F. Cotten, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Mississippi	H. G. Cook, Hattiesburg	J. P. Culpepper, Hattiesburg	3rd Tues., Mar., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	M. M. Powell, Jr., Coldwater	Second Wednesday
Tri-County	J. C. McGuire, Hazelhurst	R. B. Zeller, Hazelhurst	
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazelhurst	Sec. Tue., Mar., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Field, Centreville	R. J. Field, Centreville	
Winona District	Edgar Giles, Avalon	S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

"MENINGOCOCCI MENINGITIS" — James W. Bruce, Kentucky Medical Journal, 40:256 (July) 1942.

The writer instituted the sulfanilamide treatment of meningococci meningitis at the Louisville City Hospital in the winter of 1937-38, continuing the intravenous use of antitoxin at the same time. Encouraged by reports from other places, he began using sulfanilamide alone, only resorting to antitoxin in very severe cases, or when the drug did not give results quickly. After about a year's observation he evolved "the technique of using sulfanilamide alone for 48 hours, and then, if the patient was not better, of giving antitoxin intravenously in addition. This mode of treatment has been continued to this day." When sulfapyridine was brought out and recommended, the writer used that, and he believes it is a better and safer drug than sulfanilamide. When it is vomited he uses the soluble sodium sulfapyridine and gives double the oral dose by rectum. "In bad cases this salt can be given intravenously. The dose of sulfapyridine by mouth is 1.5 grains per pound baby weight in 24 hours, the dose by rectum is 3 grains per pound and intravenously 0.5 cc. of a 5 per cent solution per pound of baby weight can be given every 4 to 6 hours." Since the latter part of 1937, 30 cases of meningococci meningitis have been treated with sulfonamide drugs at the Louisville City Hospital. "Eleven were treated with sulfonamides alone and 19 with antitoxin and sulfonamides." At first prontosil was used, then sulfanilamide, then sulfapyridine, and lately one or two were treated with sulfadiazine. The writer has never used sulfathiazole. "The number of cases treated with each drug is too small to be of statistical value. Of these 30 cases, three died (10 per cent); one of these received sulfanilamide alone, the other two sulfonamide and antitoxin. One of the latter died less than 12 hours after admission to the hospital."

The writer states that the opinion is growing more and more that lumbar punctures except for diagnosis are unnecessary in the treatment of meningitis. This means that one or two punctures are all that should be done on any one case. If the patient is getting along satisfactorily clinically, he should be let alone."

It is the writer's conclusion that "meningococci meningitis responds better to sulfonamide drugs than it does to serum, either intraspinal or intravenous. If satisfactory results are not being obtained with one drug, it would be well to switch to another, or give the soluble salt intravenously."

The writer says that serum is rarely necessary. When it is used, the intravenous antitoxin is just as good or better than intraspinal serum, and is a great deal easier on the patient.

Spinal punctures should be done for diagnosis only. Occasionally they may be used to relieve headache.

COMMENT

The practice among most of our pediatricians seems to be leaning more to the use of the sulfonamides than to serum. It is apparent that spinal punctures are becoming less necessary all the while, and intraspinal medication is rarely practiced at this time. Thus it will be seen that the sulfonamides and intravenously are more in use today than any other kind of treatment.

PUBLIC HEALTH

A SURVEY OF HOOKWORM INFECTION AMONG NAVAL RECRUITS, by Marian L. Connerly. Abstracted in the *Military Surgeon*: 92: 221-222, February, 1943.

"By routinely doing stool examinations among recruits at Norfolk, Virginia, and New River, Connecticut, the author found 2,990 positives for hookworm among 13,000 stools. The positives were very nearly confined to the 17-22 age groups. Five times the incidence of hookworm was found among Southern recruits, with little difference if classified by state of birth or state of residence. The highest number of positives were found to originate in Florida, Alabama, Georgia, South Carolina, *Mississippi*, and North Carolina, in that order of severity. A definite association is established between hookworm and barefootedness, toe itch, outside latrines, and rural environment. No effect is established on height, weight, or hemoglobin concentration by hookworm infestation."

COMMENT:

The Mississippi State Board of Health together with its full-time local health departments have long recognized the seriousness of hookworm infestation in the state and particularly in the southeastern counties. Its effects upon the individual and the community point to the necessity for continuous education of the public concerning this problem, pointing out how great a menace it is to physical, mental, and economic development and how it can retard the progress of the community as a whole. Hookworm disease, unlike many other diseases which can be completely controlled by public health measures, is dependent upon the physician for painstaking diagnosis and treatment of those who harbor the parasite before its ultimate control can be attained and preventive measures can be wholly effective. The division of laboratories of the State Board of Health is aiding the doctor in making accurate diagnoses and the local health department is working constantly for the improvement of *environmental sanitation and for the education* of the layman in methods of prevention to the end that this malady may be ultimately banished. Full coöperation is the first essential.

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A SURVEY OF DIPHTHERIA INFECTION AMONG NAVAL RECRUITS, by LeRoy D. Fothergill. Abstracted in the *Military Surgeon* 92:222, February, 1943.

"It has been felt for some time that the susceptibility of young adults to diphtheria has been rising. Hence this survey was accomplished by the use of Schick testing with intradermal toxoid controls on naval recruits, the tests and controls being read at two- and five-day intervals. The recruits from every state in the union were tested.

"It was found that 37% were susceptible, with the most susceptible group being the 17-19 year-olds. Regarding state of origin, 50% from the Southeastern states were found susceptible; 35% susceptible from the East, Middle West, and Southwestern states. Recruits from the North and Northwest were much less susceptible. Rural recruits from the North were more immune and rural recruits from the South were more susceptible.

"It is felt that immunity is due to latent infection with diphtheria, for how else could the individual react to the bacillary protein contained in the testing material? It is concluded that immunity does not last nearly as long as was formerly thought. The susceptibility rate of young adults is alarmingly high."

COMMENT:

These findings coincide with similar findings of the Preventable Diseases Division of the Mississippi State Board of Health in recent years; namely, that the percentage of cases of diphtheria in older age groups has been increasing and that it is not uncommon to see the disease occurring in the age groups referred to in this study.

* * * *

FURTHER COMMENT:

The findings of both of these surveys revealing surprising amounts of hookworm disease and cases susceptible to diphtheria should serve as a reminder to both physicians and public health workers in Mississippi that they have a tremendous responsibility at this time in correcting these conditions. Manpower is an urgent need and let there be no wasting of it through failure to immunize against the preventable diseases; and let there be a greater alertness in finding cases of such diseases as hookworm disease, for which modern science affords such specific methods for diagnosis, treatment and control.

State Board of Health

Felix J. Underwood, M.D.

MORBIDITY STATISTICS FOR MISSISSIPPI 1932 and 1942

A comparison of the 1932 and the 1942 morbidity statistics, as reported by physicians to the Division of Preventable Disease Control, shows some interesting trends, some of which are favorable and some of which are unfavorable, points out Dr. A. L. Gray, director. The following tabulation compiled by this Division doubtless will be of interest to physicians:

	1942	1932
Amebic dysentery	1472	481
Bacillary dysentery	12139	5686
Cancer	2518	1737
Chickenpox	6631	4795
Dengue	48	47
Diphtheria	415	1089
Gonorrhea	18279	16548
Granuloma Inguinale	639	-------
Hookworm	6228	2351
Influenza	39216	63409
Lymphogranuloma	279	-------
Malaria	11349	36132
Measles	12709	689
Meningitis (meningococcic)	66	34
Meningitis—other forms	32	56
Mumps	16000	1546
Ophthalmia neonatorum	106	76
Pellagra	3222	5741
Pneumonia	14830	1040
Poliomyelitis (acute)	59	34
Puerperal Septicemia	265	275
Rocky Mountain Spotted Fever	6	-------
Scarlet fever	606	771
Smallpox	18	641
Syphilis	18586	10521
Trachoma	56	43
Tuberculosis (pulmonary)	1351	904
Tuberculosis—other forms	49	120
Tularemia	59	7
Typhoid fever	150	911
Typhus fever	61	-------
Undulant fever	25	10
Whooping cough	10351	6837

Particularly favorable is the reduction in diphtheria, typhoid fever, smallpox, pellagra, and malaria. This should be expected in the light of preventive measures which have been so widely applied in recent years; however, the figures reflect that there is still much work to be done.

The apparent increase in cases of syphilis and gonorrhea, when analyzed, can not be considered an unfavorable trend because of the fact that this increase is a result of the intensive program of education, case-finding, and control which has been conducted during the past several years. In a number of the diseases listed there was more complete reporting in 1942 than in 1932 due to improved diagnostic procedures which developed during the ten-year period.

As to unfavorable trends in the disease picture, it is to be noted that undulant fever, typhus fever and Rocky Mountain spotted fever have been increasing in the past few years. These diseases present problems which the physician and public health worker must now prepare to meet, otherwise this increase can be expected to continue.

On the whole, the incidence of communicable disease in the state has been relatively low for the year just ended. However, new problems are mounting due to the numerous conditions the war effort has brought about. The importance of continued vigilance in the control of epidemics can not be overemphasized. Even though already overtaxed, physicians and health workers must not at this critical period relax their efforts in the fight against disease.

* * * * *

VENEREAL DISEASE CONTROL

As an aid toward the control of the venereal diseases around military areas, rapid treatment centers are being established in various parts of the country where infectious cases of these diseases may be readily rendered noninfectious by treatment and where isolation can be provided during the period of infectivity. The War Public Works Agency, under the Lanham Act, is making possible the operation of three rapid treatment centers in Mississippi, which will be operated under the jurisdiction of the State

Board of Health. These centers will materially relieve communities around Army and Navy establishments of an acute problem for which there has been no solution up to the present time.

Under the agreement drawn up in September, 1940, by the War and Navy departments, the Federal Security Agency, and state health departments on measures for the control of venereal disease in areas where armed forces or national defense workers are concentrated, it is provided that recalcitrant, infected persons with communicable syphilis or gonorrhea are to be forcibly isolated during the period of communicability and that in the civilian populations it is the duty of local health authorities to obtain the assistance of the police authorities when necessary in enforcing such isolation. This agreement was drawn up with the anticipation that there would be provided suitable isolation facilities.

There has been good coöperation on the part of all authorities in popularizing repression of prostitution as an aid in the control of venereal diseases. However, the problem is a far-reaching one and requires constant vigilance. It is known that many young girls are attracted to the camps and defense areas to be near their sweethearts or to find gainful employment. Although most of them come with good intentions of making honest, clean living, many of them find it difficult to do so, fall into the hands of "racketeers" because of the chance to make some extra money, become sexually promiscuous, and finally contract venereal disease which necessitates isolation and treatment.

When a venereal disease case develops at a military establishment the contacts of such cases are reported to the health department with a view to examining them and isolating and treating contacts found to have venereal disease. In carrying out this procedure the health departments have had to use the local jails to isolate prostitutes and other sexually promiscuous women. The jails were, of course, entirely inadequate for this purpose but with no provision for other isolation facilities they had to be used to accomodate as many venereal disease cases as they could hold in order to satisfy the demands of military and civilian authorities in keeping the diseases under control.

The rapid treatment centers will furnish the badly needed facilities for isolation and will provide treatment to cases admitted. Although medical rehabilitation and isolation will be the primary aim of these centers it is hoped that through the coöperation of other agencies, some social and economic rehabilitation may be accomplished for those amenable to such a program.

The rapid treatment centers in Mississippi will be located at the Matty Hersee Hospital, Meridian, and near McLain and Richton. It is scheduled to have one of the centers in operation by the middle of March.

* * * * *

THE NUTRITION PROGRAM AND RATIONING

There has been much concern in recent weeks about the effect of food rationing on the nutritional status of the people of Mississippi. In community groups, remarks such as "Why bother to talk about what I need to eat —these days I have to eat what I can get," have not been uncommon.

Miss Mary Stansel, nutritionist on the staff of the State Board of Health, points out that in the school health program as well as in the general program of nutrition education a major objective is the promotion of a better understanding of the ways in which available foods may be utilized for the best possible nutrition. It can not be assumed that the rationing of processed foods will necessitate a lowering of nutritional standards for the population generally. In fact, more gardens and more complete home canning plans have already resulted from the scarcity of commercially canned foods, thus bringing about a situation which favors improved nutrition for the majority.

Good nutrition depends on wise management of resources and good food habits at any time. Many families now depend on raw cabbage, raw turnips and fresh and home canned tomatoes for an adequate intake of ascorbic acid. Too, families near a store can still add fresh oranges and grapefruit to this list. The daily serving of green or yellow vegetables can also be easily managed without the use of a can opener. Sweet potatoes, carrots, and greens of all kinds are available most of the year. Okra, green beans, yellow squash, and others add seasonal variation. These vegetables can be served in many ways. For example, sweet potatoes could be served for at least ten times without a repetition in method of preparation. Wider use of raw vegetables would add interest as well as food value. In cooking vegetables, those methods which permit the greatest retention of vitamins and minerals are a "must."

In addition to fruits and vegetables, meals must of course include other essential foods—milk, lean meat, eggs, whole grain and enriched breads and cereals. Peanuts and edible soybeans are being especially stressed at this time because of their high protein value and their use as supplements to the available lean meat supply. In recent years, bread and cereal consumption has decreased. Most of the whole grain cereals are plentiful and more whole-wheat flour, home-ground cornmeal and brown rice would add greatly to the nutritive value of the average Mississippi dietary. There is a danger, however, that some families will tend to use additional refined cereals as white rice and white grits, which contribute little in food value.

The British have demonstrated that the nutritional status of the population as a whole can be improved even in time of war through well managed food rationing. Mississippi, with greater agricultural resources, can surely show an even greater improvement. Certainly, adequate meals that are a joy to eat require more thought and planning when variety is limited, but the results in better health more than justify the effort.

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MATERNAL AND CHILD HEALTH ASSISTANCE

The Mississippi State Board of Health, through an appropriation applied for to the Children's Bureau, may soon be able to finance greatly needed obstetric and pediatric care for wives and infants (under one year of age) of certain enlisted personnel in the armed services. A very limited appropriation from existing funds was designed by the Children's Bureau as available to states for part of the fiscal year 1943. However, this sum has been so insufficient to meet the need that a supplemental appropriation for the balance of the fiscal year 1943 of $1,200,000 has been requested of Congress with the President's recommendation. The Children's Bureau has set up a general outline of policy and records to be followed by the states in order to expedite transfer of cases, and to minimize "red tape" for all concerned.

Funds are approved only to compensate physicians or hospitals where there is no other source available to the family involved. Families of enlisted men in the lowest paid grades of the service are the only ones eligible for this assistance. Aid is given irrespective of legal residence, but free choice of physician is insisted upon.

Any regularly licensed physician in the state willing to give the necessary care may be authorized to receive a stated fee provided from this source through the Maternal and Child Health Division of the State Board of Health. Prenatal care may be given in regularly established clinics or in the physician's office as he finds convenient, provided only that such care is of a quality comparable to that outlined in the Children's Bureau publication, "Standards of Prenatal Care." However, this is the minimum standard now accepted by most practicing physicians in the state.

When the physician requests it, hospital care will be authorized at the rate established under the plan. Care for acute illness in infants under one year of age is similarly provided for in the tentative plan.

Some camps have adequate facilities for handling completely the needs of personnel and their families. In other areas local physicians and agencies have been taxed to the utmost to provide care where funds were not available.

If Mississippi can secure this federal appropriation it will be possible to provide some compensation for the physician and hospital, and at the same time safeguard the families of America's fighting men. As soon as the funds are made available, the State Board of Health will send complete information to each physician and hospital in the state so that those desiring to avail themselves of this assistance may do so.

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PERSONNEL NEWS NOTES

Dr. John W. Dabbs, native of Mississippi, was appointed director of the Leflore County Health Department, effective February 1, 1943. Dr. Dabbs received his pre-medical education at Emory University, obtaining his medical degree from Hahnemann Medical School in Philadelphia in 1937. After a one year rotating internship at Hahnemann Medical School, Dr. Dabbs was three years with the Alabama State Health Department as county health officer and also served in this capacity with the Tennessee State Department of Health for more than a year. His previous public health experience should make him well qualified to serve Leflore County.

* * *

Mr. Morris A. Nussabaum, assistant chemist (R), United States Public Health Service, has been added to the staff of the Division of Industrial Hygiene in the capacity of industrial hygiene chemist. It will be his duty to aid in the collection of exact data relating to the working conditions of employees. He will make studies in factories of the concentrations of various dusts, gases and vapors at the breathing level of the workers and be responsible for the supervision of all chemistry in the division of laboratories of the State Board of Health. The addition of Mr. Nussbaum to this division should add materially to the effectiveness of the services already being given.

* * *

The Maternal and Child Health Division of the State Board of Health which has been handicapped by the loss of several of its valued personnel during the past year has been fortunate enough to secure the services of Dr. Frances E. Brennecke for the important duties of this division. Dr. Brennecke received her A. B. from the University of Pennsylvania and her M. D. from Rush Medical College. After an internship at Blodgett Hospital, Grand Rapids, Michigan, she served as resident in pediatrics at the Children's Hospital, Detroit; later as orthopedist at this hospital. She also served as assistant orthopedist at the Detroit Orthopedic Clinic in 1940 and as assistant orthopedist to Dr. John T. Hodgen, Grand Rapids, Michigan.

* * *

Attending the Annual Congress on Medical Education and Licensure in Chicago February 15-16, were Dr. Felix J. Underwood and Dr. R. N. Whitfield, representing the State Board of Health. Dr. Whitfield is vice-president of the Federation of State Medical Boards of the United States which meets with this congress. Dr. Underwood was present upon invitation to present a paper on *Medical Licensure and Public Health.*

* * *

Get A Copy for Reference

A very useful compilation of books and periodicals which are available for loan through the medical library of the State Board of Health has just been released. Entitled, *Useful Weapons in the Fight Against Disease,* it comprises over twenty pages of author and title entries, classified in order to serve borrowers conveniently. It is being distributed to the various county health departments in the state and copies will be made available to any physician, dentist or nurse upon request. A brief statement regarding the purposes of the library, its borrowing rules and regulations, is included in the booklet.

Woman's Auxiliary
TO THE
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NORTHEAST MISSISSIPPI AUXILIARY

Mrs. A. J. Stacy of Tupelo welcomed the members of the Northeast Mississippi Thirteen Counties Auxiliary to her home for the quarterly meeting March 9. Mrs. E. K. Guinn, of Okolona, president of the group, presided. Special emphasis was placed on the doctor's wife's role in the community during the war. Discussions were assigned as follows.

The Importance of Pushing *Hygeia* Subscriptions—Mrs. W. H. Cleveland, Tupelo.

Six Ways the Doctor's Wife Can Aid During the War—Mrs. W. H. Anderson, Booneville.

Mrs. V. B. Philpot, Houston, president of the state organization, brought greetings and an encouraging report of the A.M.A. Auxiliary Council meeting in Chicago, Ill., which she attended.

A dainty afternoon menu was served at the conclusion of the program. Mrs. G. L. Brown and Mrs. R. D. Kirk assisted the hostess.

COAST MEDICAL AUXILIARY

Mrs. J. O. Lopez and Mrs. C. H. Wiggins were

February hostesses to the Coast Medical Auxiliary at a luncheon meeting in Hotel Markham. The tables were decorated with red japonicas. At a short business meeting the auxiliary voted to serve as hostess for the refreshment hours at USO, March 7. Mrs. Daniel J. Willliams will entertain the auxiliary for the next meeting at a tea at her home, Glenwood, Gulfport, Two guests, Mrs. J. Lopez, Vicksburg, and Mrs. N. E. Rousseau, Canada, and the following members attended: Mesdames Daniel J. Williams, J. O. Lopez, W. W. Cox, J. A. Hughes, S. D. Miller, C. H. Wiggins, and E. C. Parker.

The Research and Romance of Medicine Committee of the Woman's Auxiliary to the Mississippi State Medical Association has functioned for the first time this year, 1942-'43. Corresponding committees were organized in component auxiliaries for the purpose of gathering, preserving and dispensing copies of interesting papers, clippings, biographies and bits of traditional history of the medical profession, papers on health education and other information for the use of auxiliary units in preparing their programs.

This first year a special effort has been made to obtain biographical sketches of Mississippi physicians, and for this purpose each doctor's wife was given a slip to follow as an outline. Three hundred slips, "Biographical Data," have been distributed by chairmen of local Research and Romance of Medicine committees. They, in turn, will send the collected data to the state chairman of Research and Romance of Medicine, Mrs. John B. Howell of Canton, who will file it for future reference.

Mrs. Howell writes:

"Coöperation has been very gratifying and it has been a pleasure to serve. Especially do we want the data on our doctors who are in the service. In many cases, however, the wives prefer to wait until after the duration—'When Johnnie Comes Marching Home'."

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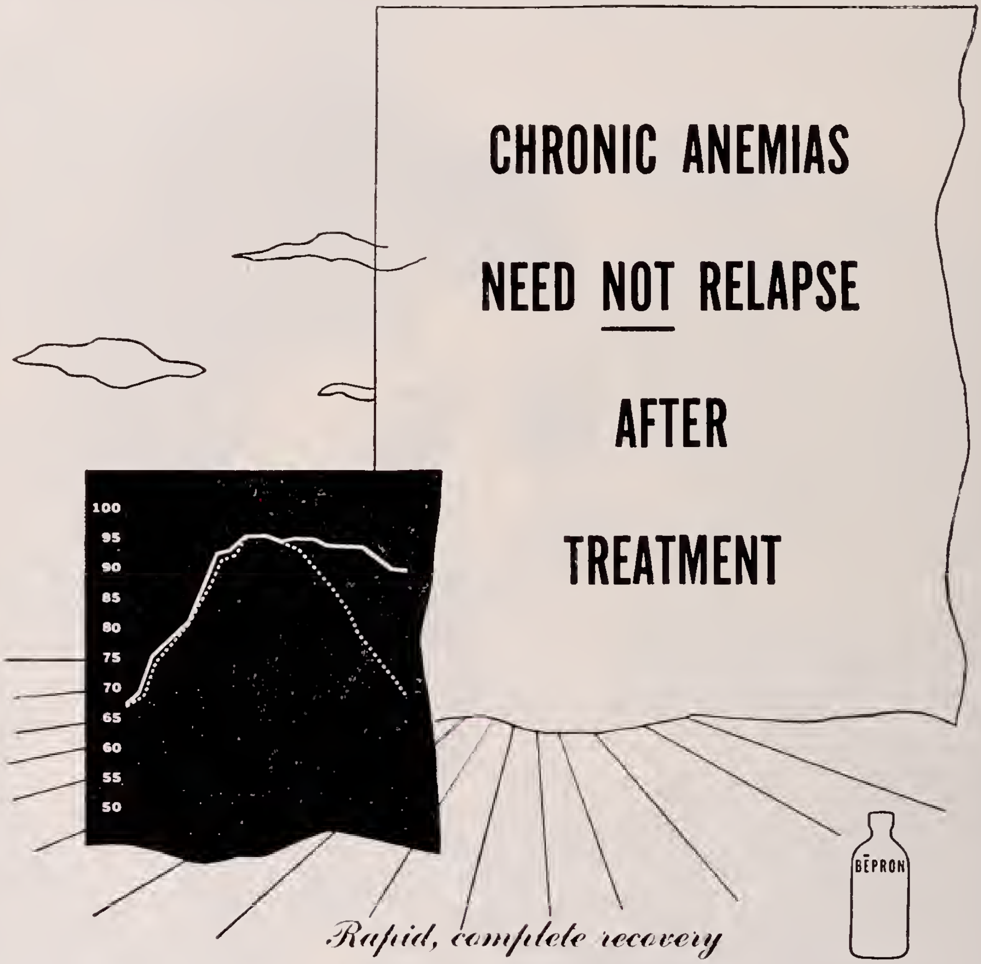
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†GOTTLIEB, R.: Whole Liver as an Adjuvant to Iron in the Treatment of Hypochromic Anemia, Canad. M. A. J. 47: 456-460 (Nov.) 1942.

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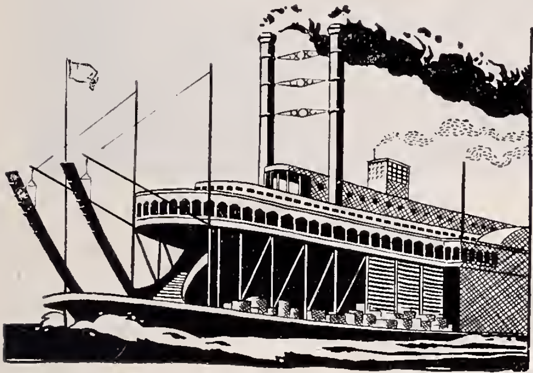

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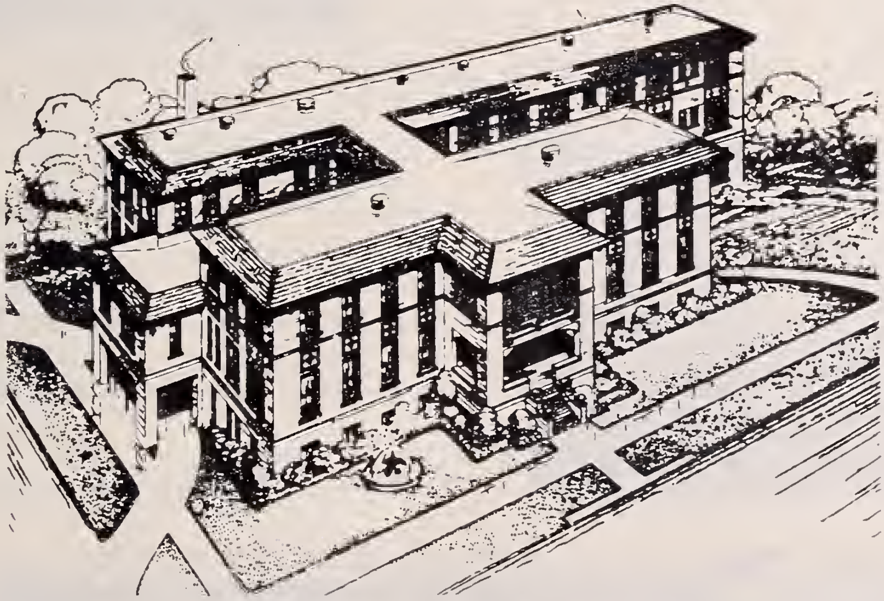

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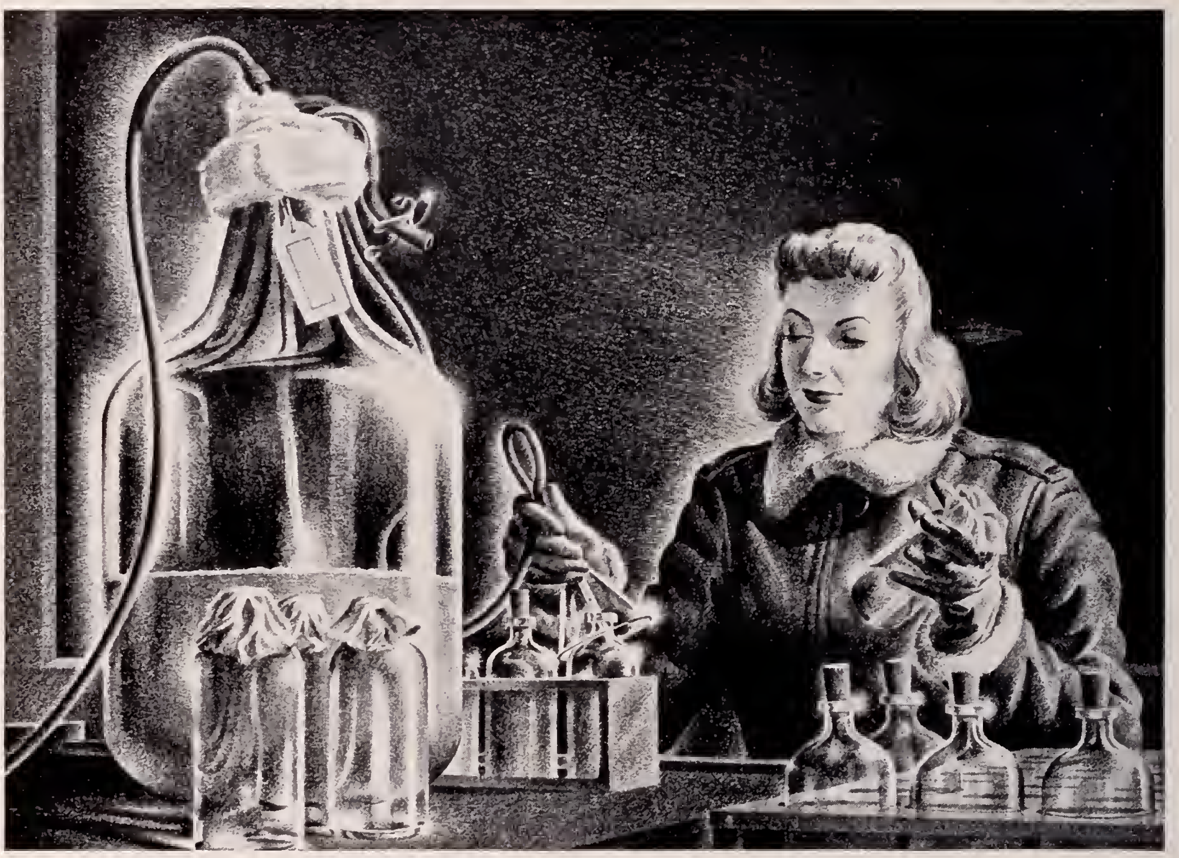

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BUY WAR BONDS AND STAMPS

X-Ray in the Recognition and Control of Pulmonary Tuberculosis*

FRED JENNER HODGES, M. D.
ANN ARBOR, MICHIGAN

NO LONGER than twenty years ago x-ray examination of the chest was indulgently looked upon by honest and serious-minded internists as one of several laboratory procedures oftentimes quite useful in confirming the clinical diagnosis of pulmonary tuberculosis. In those early 1920's there were a few rabid enthusiasts within the ranks of the infant specialty of radiology who brazenly purported to be able to diagnose pulmonary tuberculosis from roentgen findings alone. Although it should have been obvious to the followers of both schools that the passage of time would relegate the importance of x-ray examination of the chest to a position lying somewhere in the middle ground between these extreme views, this compromise of opinion was slow to develop. As recently as ten years ago reputable physicians have been known to speak disparagingly about "x-ray tuberculosis," those instances in which minute and easily overlooked, but none the less distinctly abnormal, zones of decreased pulmonary transparency are discoverable on x-ray examination without demonstrable clinical evidences of the disease.

When one gives thought to the matter it seems almost incredible that these widely divergent beliefs have in so short a time become solidly amalgamated into the present day concept of pulmonary tuberculosis in its early stages—a concept incidentally which is enthusiastically supported by all physicians concerned in the detection and control of this disease. So thoroughly do phthisiologists believe in the reliability of x-ray findings that it has been they, rather than the roentgenologists, who have been primarily responsible for the remarkable increase in the use of x-ray methods as a wholesale case finding procedure. As a matter of fact the roentgenologists have been peculiarly slow to develop enthusiasm for mass chest surveys. Regardless of the credit or censure deserved by any particular medical group, case finding in the universal campaign against tuberculosis has been to a very considerable degree an x-ray procedure.

Today enormous population groups of one sort and another are being subjected to a form of x-ray examination which can be carried into schoolhouse, factories, concentration points for the personnel of our armed forces, ports of entry along our continental borders, and whole areas in residential districts of our concentrated population centers. The sudden expansion of the x-ray method of chest examination has brought with it some undeniable concessions in the matter of thoroughness. Against this state of affairs many voices have been raised in protest but it seems inevitable that in the last analysis the good which is being done on such a very wide scale must offset whatever evils are involved. It is important for the medical profession itself to maintain its sound equilibrium while accustoming itself to the harvest of this enormous crop of x-ray observations. As physicians we must not permit ourselves to magnify individual errors which are bound to come to light. Neither must we permit ourselves to develop a blind and unreasoning faith in the reliability of wholesale survey findings. We must train ourselves to adopt a wholesome respect for indications of pulmonary disease uncovered by such methods, at the same time reserving final opinion until the small fraction of all groups examined, who are rendered suspect on the basis of findings turned up by the survey method, have been carefully and systematically studied as individuals. There can be little doubt that the plan of attack which currently enjoys such wide favor will bring us into much closer contact with large numbers of hitherto unsuspected patients who harbor pulmonary tuberculosis.

It is fallacious to assume that survey methods must be judged solely according to their ability to detect extremely early pulmonary lesions. The frequency with which far advanced and highly dangerous cases of tuberculosis, as viewed from the public health standpoint, are being brought to light in mass surveys is a source of surprise and deep satisfaction. One can scarcely argue that mass survey methods are not entitled to credit for detecting full blown tuberculosis which could easily have been recognized on the basis of symptoms and gross physical signs, for it is the plain truth that great numbers of these *have* escaped recognition in the past.

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*Read before the seventh annual meeting of the New Orleans Graduate Medical Assembly, March 15-18, 1943.

*From the Department of Roentgenology, University of Michigan, Ann Arbor, Michigan.

It is easy to become so fascinated with the new developments in simple case finding that our realization of the usefulness of the older and more well established methods of x-ray examination becomes dulled. It is necessary to open the shells of a great many oysters in order to find enough pearls to earn a livelihood. The chief interest of the pearl fisherman is firmly fixed upon those oysters which do contain the prize which he seeks. Once the dragnet of wholesale survey operations, remote from concentrated medical centers, has landed its catch, all persons by this means suspected of tuberculosis disease deserve careful and deliberate examination by all methods at our disposal. One of these, and incidentally a very important one, is thoroughgoing x-ray examination oftentimes involving elaborate methods. It is inevitable that a number of the patients so remanded for further study will be found to have diseases other than tuberculosis, and x-ray methods can be most useful in establishing correct diagnosis.

It is possible with a considerable degree of accuracy to sift out tuberculosis lesions which in all probability have ceased to constitute a threat to the individual's future health and that of his immediate associates. In this category fall those densely calcified scars which represent the ashes of an active process which has long since subsided. One must, of course, be on the alert for signs of re-infection and should not be lulled to complacency by the mere discovery of pulmonary or lymphoid calcification, but should scrutinize with even greater care every visible cubic centimeter of lung tissue.

It is also possible in a considerable number of instances to establish the fact that non-calcified pulmonary lesions distributed in the manner characteristic of tuberculosis are no longer actively advancing. To do so often requires interval observations and one must not expect an instantaneous verdict. Much as the roentgenologist would like to discover a formula by which each individual's case problem could be accurately solved, the likelihood of this achievement on the basis of x-ray findings alone seems far remote.

Granted that in an individual instance active pulmonary tuberculosis does exist, the roentgen findings can be most helpful in determining the location and visible characteristics of demonstrable lesions. It is possible for him moreover to report in the standardized terminology of the American Tuberculosis Association the extent and character of the disease as he sees it. His language in reporting findings can be almost telegraphic in type without loss of significance or coherence. Visible lesions of pulmonary tuberculosis which are not obviously calcified or densely scarred fall simply and logically into four basic divisions. Considering the chest as a whole, or, if it is preferred, each lung individually, a lesion may be said to be "active" if the shadow which it casts, either in whole or in part, does not appear to have the density which is commonly acquired as the result of the deposition of fibrous tissue so characteristic of the healing process. It is highly informative if the roentgenologist can transfer to the written page an understandable expression of the extent of the lesion. If the lesion is relatively small, involving no more lung tissue than that which is ordinarily encompassed by the shadow of the first rib at the extreme pulmonary apex, the lesion may be reported as "minimal" in extent. Although minimal lesions are ordinarily found in the apex or the subapical areas, they may of course occur at any point in the lung. If by simple inspection the extent is no greater than that which has been described it still qualifies as minimal in extent.

The demonstration of central excavation at once transfers the lesion to the next category, even though it is not great in total extent, and all lesions which show cavitation not to exceed four centimeters as measured on the film are called "moderately advanced" if the amount of tissue involved approximates the volume of one pulmonary lobe. Multiple minimal lesions approximating this volume, but not exceeding it, are classified as moderately advanced.

If the tuberculosis process involves more lung than that equal to the volume of a solitary lobe it is classified as "far advanced." This same category is used if excavation has progressed to the point where the cavities present a total added diameter which exceeds four centimeters regardless of the total lung volume involved.

The specifications of any particular pattern of tuberculous involvement of lung might be subjected to much more elaborate classification, but for practical purposes this is neither necessary nor desirable. There is but one other category which richly deserves special consideration and that is miliary spread throughout both lungs.

The roentgenologist has not completed his task by simply reporting the existence of pulmonary abnormalities which in his estimation must be considered tuberculous in origin and classifying the extent of the disease. His methods may very well assume major importance in the management of the patient. In addition to notations regarding the existence of cavity, either obvious or suspected, he should look for signs of pleural thickening, pleural effusion, empyema, spontaneous pneumothorax, and calcification of the pleura. In the course of multiple interval examinations of the same patient he should promptly report demonstrable changes in the character of previously observed lesions, being ever alert for signs of extension to hitherto uninvolved areas of lung.

Once the energetic treatment of the tuberculous patient is begun the roentgenologist becomes in very real fact that partner of the internist and the thoracic surgeon. It is upon him and his methods that these men depend for findings which will inform them as to the success of the curative methods which they are employing. Under flouroscopic observation, as well as by means of roentgenographic procedures, he must be prepared to report upon the extent and efficacy of induced pneumonolytic procedures of any type. Shortly before each stage of thoracoplasty, whenever such radical measures become necessary, he is in a position to restate the exact situation and shortly after each operative stage he can again report the results which have been obtained. He is often called upon to assist in special diagnostic attempts involving the introduction of opaque materials into draining sinuses and residual empyema cavities in order to determine their extent and exact anatomical relationships.

The intricate ramifications of the anatomical and physiological changes wrought by pulmonary tuberculosis constitute for the roentgenologist an extremely difficult but by the same token absorbingly interesting field of endeavor. His responsibility to the public at large and to his confrères in other special fields of medicine is great. This responsibility is measurable directly in terms of his industrious application and the reliability of his observations and deductions. By adhering closely to the thesis that he may best render service as an objective observer, somewhat aloof from the intimate personal and individual problems presented by the patient, he will find for himself a position of peculiar importance in the mass attack upon pulmonary tuberculosis. He is needed to apprehend the enemy, to sound out the strength and distribution of his troops, and to report the behavior of those troops under fire. In the language of the football columnist the radiologist is or should aspire to be a triple threat man.

INDEXING CODE FOR X-RAY FINDINGS

INTRATHORACIC TUBERCULOSIS

Field VII

1. Calcium deposit, parenchyma (Ghon's)
2. Calcium deposit, lymph nodes
3. Tuberculosis, non-calcified, parenchymal lesion (child)
4. Enlarged lymph nodes, tuberculosis
5. Tuberculosis suspect (existence of lesion questionable)
6. Inactive, non-calcified, tuberculosis lesion
7. Minimal
8. Moderately advanced (active lesion)
9. Far advanced
10. Miliary
11. Cavity, suspected
12. Cavity
13. Pleuritis without effusion
14. Pleural effusion, empyema
15. Calcium deposit, pleura
16. Viscero-parietal pleural adhesions
17. Spontaneous pneumothorax
18. REACTIVATION, SPREAD
19. Pneumothorax, induced
20. Phrenic interruption
21. Pneumonolysis (any type)
22. Thoracoplasty
23. Other surgical procedures
24. SINUS TRACT INJECTION
25. EXCEPT AS ABOVE
26. TUBERCULOSIS IN HOSPITAL EMPLOYEE
27. SPECIAL INTEREST

The Use of Sympathetic Nerve Block in:
(1) Herpes Zoster
(2) Bell's Palsy

A. STREET, M.D.
VICKSBURG, MISS.

HERPES ZOSTER

A FIFTY-THREE-year-old white woman was first observed on January 30, 1943. She had complained of pain in the left lateral chest for two weeks, and during the last few days an eruption had appeared. The pain was severe and she was unable to get any relief from the various measures she had been using.

Local examination showed the presence of a typical herpes zoster. The patches extended downward and forward around the left lateral chest, beginning about the level of the second, third, and fourth dorsal segments.

It occurred to me that it would be an interesting experiment to do a sympathetic nerve block and observe what, if any, affect it would have on the course of the disease. I asked the patient if she would like to be a guinea pig for this purpose, and she replied that because of the severity of her pain and discomfort she didn't care what I did.

Paravertebral injection of the second, third, and fourth thoracic segments was immediately done, using about 60 cc. of 1% novocaine altogether. As the needle passed by the transverse processes the nerve roots were also blocked in order to make the procedure less painful, and for the immediate relief of the pain of the zoster. The patient left the office entirely comfortable. She was instructed to return in five days for another treatment.

On returning five days later it was surprising to learn that the patient's discomfort had not returned following the block. There had been slight pain at times promptly relieved by aspirin. The zoster lesions had completely dried up the day following treatment, and examination now showed the dry scabs with no surrounding redness or tenderness. No further treatment was given and subsequent recovery was uneventful. She did not have the prolonged neuritic pain which so often follows zoster.

On January 25, 1943, a fifty-seven-year-old white woman was observed also complaining of left lateral thoracic pain, and examination showed typical herpes zoster of the left upper lateral thorax. Duration of the pain was two weeks. Novocaine block of the left upper thoracic sympathetic segments and nerve roots was done and resulted in the same relief of pain and subsiding of the herpes lesions as had occurred in the first case.

On March 13 while making hospital rounds for the first time since returning from a trip out of the city, I found a patient with severe herpes zoster of the face who had been admitted three days before. The eruption began four days previously and involved the left half of the face. The lesions were pustular and there was extensive cellulitis with redness and edema, which resulted in complete closure of the left eye. Pain was extreme and only partially relieved by the frequent hypodermics of morphine which he had been receiving. The patient was a male, age seventy-four. He had previously been treated for hypertensive cardiovascular disease.

Novocaine block of the left cervico-dorsal sympathetic was done immediately, using the anterior approach. When seen a few hours later the patient stated that he had obtained marked relief of his discomfort. The following morning the cellulitis and swelling had largely subsided, so that the patient's left eye was open. The pustules were rapidly drying up. No more sedative of any sort had been required, and none was required subsequently. By the second day all redness and edema had disappeared, and the lesions were dry black crusts. These gradually came away leaving dry pitted scars. There was no residual pain in the face.

BELL'S PALSY

A white male, age 55, was first observed on January 22, 1943. Complaint was that his face was one-sided and that he could not close his right eye. Just before the onset, which was five days before, he had taken a long automobile trip and the right side of his face had been exposed to a cold draft during the trip.

Local examination showed complete paralysis of the right side of the face including the eyelid and the brow. The general examination showed nothing remarkable.

Complete right cervical and cervico-dorsal sympathetic block with 1% novocaine was done. The patient was given a solution of sodium sulfadiazine to drop in the eye which he was unable to close, and was instructed to return in one week. He was next seen on January 29. The patient stated that improvement began the day following his treatment. He also noticed muscular twitching in the involved side of his face for two or three days after the treatment. Examination showed considerable return of ability to use the facial muscles. He could completely close his eye. Facial asymmetry was less. The cervical and cervico-dorsal sympathetic novocaine block was repeated. He was again seen on February 5, 1943, and at that time facial asymmetry was absent and return of muscular function almost complete. No further treatment was given.

A white female, age 56, was first seen on February 24, 1943. She complained that her face had been one-sided for two days and she was unable to close her left eye. Local examination showed the presence of left facial paralysis including the eyelid and the brow. General examination was not remarkable except for mild hypertension.

Left cervical and cervico-dorsal sympathetic block was done using 1% novocaine and the anterior approach. She was observed again in one week and marked improvement was noted. She had also observed muscular twitching of the involved side for a few days following the treatment. The cervical block was repeated and she was again seen in one week, and at that time the residual paralysis was so little that no further treatment was advised.

A colored female, age 61, was first observed on February 5, 1943. Facial asymmetry had been noticed first sixteen days before, and there was inability to close the left eye. Local examination showed the presence of left facial paralysis including the eyelid and the brow. General examination revealed nothing remarkable.

Left cervical and cervico-dorsal sympathetic block was done using 1% novocaine. Improvement was prompt and was so marked at the end of one week that no further treatment was given.

REMARKS: My first experience with the use of sympathetic nerve block with novocaine in treating herpes zoster and Bell's palsy was in January 1943. The results were so encouraging that I have treated all other patients with these conditions since, by the same method, and all with the good results described in the six case reports above. The number of cases is too small to justify anything like positive conclusion as to the value of the treatment. On the other hand the results so far are so surprisingly good, and the method so simple and harmless, that we need have no hesitation in using it extensively.

I do not know why sympathetic block should have any important effect on these conditions. In the cases of Bell's palsy during the early stages of the disease there is probably swelling of the trunk of the facial nerve as it passes through the stylo-mastoid foramen. It is possible that the sympathetic block causes a recession of this swelling, relieving pressure before degeneration of the nerve fibers has occurred. If that is true, sympathetic block should be of no value late in the course of a Bell's palsy, when nerve degeneration has already occurred. I have not had opportunity to make observations on any such case.

Herpes zoster is an acute inflammatory condition involving the ganglia and fibers of sensory nerves. There is blood extravasation, destruction of cells and fibers and inflammation of the nerve sheath. If sympathetic nerve block has any effect on these processes, it would be difficult to explain.

A new medical term is "immersion foot." It is the result of long exposure of cold, dampness and water while adrift at sea. It is similar to frostbite, a constriction of the blood vessels.

Medical Services in Industry*

T. J. BULGER, M.D.
Medical Director, Chickasaw Ordnance Works
MEMPHIS, TENN.

TODAY THERE are approximately 44 million industrial workers in this country, most of them directly or indirectly engaged in our war effort. To this group there is a definite medical responsibility—we must see that they are physically able to continue to do their jobs as efficiently as possible.

During these times, war work is of prime importance. And the most important "piece of machinery" in our war factories is the war worker himself. Consequently, many of our larger industries have been quick to assume a responsibility to their employes. The field of this responsibility has been developed and will continue to expand. Through the efforts of our American Medical Association, sponsored by the Council on Industrial Health, the medical profession, per se, has contributed greatly to this cause.

The Plant Securities Division of the Army Ordnance Department has undertaken the job from another standpoint. Medical Procurement and Assignment authorities have considered it their duty to help provide adequate medical personnel for this work. Public health agencies, especially the National Institute of Health at Bethesda, have lent their abilities to the cause. Even "labor" has put a shoulder to the wheel when inadequacies in the program have indicated the need for help.

This venture is fundamentally sound and worth while. It is our impression that the concerted efforts of all agencies is meeting with success. Certainly, their efforts stimulated by wartime demands, have given impetus to the advancement of industrial medicine.

Because my work is in an ordnance plant, my comments will be necessarily limited to generalizations concerning the field of industrial medicine. To be more concrete we ask and attempt to answer the question: "What do these medical services mean in benefits to the workman, to industry, to the community, and to the medical profession?"

Medical services are becoming standarized on what most competent observers would consider a higher plane than formerly. We see this taking place in the highly industrialized sections of the nation, and even in some of our more isolated plants, which are, perhaps, controlled by government agencies. It is our hope—perhaps I should say our belief—that those of us here are doing the job as it should be done. Practically all of our local industries have medical programs adaptable to the particular needs of each organization.

Practically all of our local medical programs give the workman the benefit of a pre-employment examination. These examinations are quite complete; they include a history, physical examination, blood count, urinalysis, Kahn test, x-ray of the chest, vaccinations, inocculations, and possibly an electrocardiograph tracing.

Now in the vast majority of cases, this pre-employment examination represents the first real physical check-up the workman has ever received. Many of these applicants, especially those who have spent some time looking for work, have not been able to afford such an examination in the past. Usually, any physical defects discovered are brought to the attention of the examinee; it is recommended that any remedial defects be corrected, and often valuable medical advice is given to these prospective employes.

In most cases where an early diabetes, subclinical tuberculous process, small hernia, errors in refractions, etc., are discovered, the applicant is most appreciative of information. Many indicate their intention of having these defects or ailments corrected as quickly as possible.

It is considered routine to give industrial employes annual physical examinations. In the case of employes' handling toxic chemicals, or hazardous moving equipment, examinations are given much more frequently, in some plants as often as every three weeks. Here again, once the employe's confidence has been won and he is made to feel that the service is to help him rather than eliminate him, the medical-employe relationship becomes mutually beneficial. The workman grows more and more to appreciate this program to protect his health and safety.

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*Presented at American College of Surgeons, Memphis, Tenn., March 26, 1943.

The health of employes in modern plants is being protected in many ways today. Each worker receives the above-mentioned periodic examination. He is protected from toxic exposures by the ingenuity of both the medical and safety departments of his plant. He is instructed in health habits, nutrition, and exercise. Should he become sick, recommendations may be made for proper medical or surgical care. In most instances, the modern worker is financially able to follow these recommendations because industry has taken a further step and has provided insurance plans for such an eventuality. It is now practicable for a man to lay off work, pay his doctor's bills, hospital bills, and, in the meantime, maintain his routine obligations.

For illustration: One of our Memphis industries provides such a plan and it costs around three thousand dollars a week. That's one hundred and fifty dollars a year. This plan doesn't cost the employe anything; it is for the sole purpose of rehabilitation and preservation of his health. Actually, the worker receives nearly a 25% increase in income while he is sick—quite a help in taking care of the costs of an illness!

Thus we see that the old day is going, if it isn't already gone. No longer do employes "pass the hat" when one of their fellow workers gets into a financial jam due to illness. The hat full of donations has been superseded by the more efficient, company-controlled programs.

Along the same line of reasoning, vacations with pay are being provided. The thought behind vacations is simple; it gives an employe the opportunity to establish his health more firmly before another year of productive work.

To be sure, such employe welfare programs add greatly to the "overhead" of operation, but in the long run are responsible for rehabilitating, preserving, and maintaining trained personnel. The latter is certainly becoming a rare commodity today. Further, these plans are responsible for a noticeable improvement in employe morale and loyalty.

All along the road of advancement, industry has been working out its medical program cautiously and thoroughly, placing it on a business-like basis. Industry is keenly aware that its medical services are paying dividends, both concrete and intangible. As a result, industrial medical services have, in general, been getting whole-hearted and increasing management support.

During the past few years, we have seen plant medical departments expand gradually. At one time, a volunteer employe who had mastered a first aid manual, dispensed headache powders, cathartics, bandaids, etc.; today, large and efficient medical departments carry out a comprehensive program, combining the efforts of a staff of doctors, nurses, technicians, social workers, home economists, and clerical help.

Business men know that industry has been more than remunerated by a medical program which includes pre-employment examinations, periodical rechecks, toxicological research, first aid to its injured, evaluation, diagnosis, and guidance of employes, plant sanitation with its multiple public health aspects, public health programs involving nutrition and proper health habits, administration of sickness and health benefits, and even the control and eradication of venereal diseases. All of these activities are vital to the quantity, quality, costs, and efficiency of production.

Medical services affect war production in many ways. It is possible to eliminate, or perhaps properly place, a potentially unsafe worker and thus prevent accidents, and protect men and machinery. The medical program is intimately connected with the problem of lost time, commonly known as absenteeism. Absenteeism certainly affects production. Results in reducing absenteeism are not theoretical. They are very real. Statistics have shown that industries with adequate medical services have one third the absentee rate for industries in general.

If the $200,000 a year medical program of one Memphis industrial organization can be used as an index, many communities are going to enjoy better health. In fact, we should expect the workman to live a longer, healthier, and happier life.

Many communities have discovered in industry a powerful ally in the fight against venereal diseases. Kahn tests are routine matters in examinations of industrial workers; invariably, "positives" are obligated to receive treatment in order to stay on the payroll. And, sooner or later, the names of these "positives" find their way to the health department files for follow-up.

Industry, through another routine employe examination — chest x-rays — has aided the community in its tuberculosis case findings. Thus, with industry examining a great proportion of the adult population, and with the boards of health doing the same for school children, tuberculosis is being recognized and properly dealt with.

Practicing physicians will note that more and more working men are coming in for treatment. Their number is increasing because the industrial system has made recommendations and has made it financially possible for the working man to correct his condition, whatever it be.

Most legitimate absenteeism is the result of personal illness, involving such things as appendicitis and common colds. The problem of getting the working man back on his feet and back to work rests with the practicing physician and specialist. Incidentally, the physician's hands are infinitley more capable if the patient can afford to follow his recommendations. Without the coöperation of this group, our plans fail. Not many employes regard industrial medical plans as charity; most feel that these benefits are part of a working agreement.

Let us think of further benefits to the community. The social service worker has united many a personal problem. The home economist has introduced enlightened, but simplified, concepts of nutrition in the home. Finally, as though to complete the picture, the faithful industrial worker is eligible for a pension after his years of productivity. The pension plans are a God-send to those who are no longer able to carry the burden of hard work, and who in most instances would otherwise become public charges.

The effect of this whole problem may not be dramatic on the surface. Certainly it has not been attended by a great deal of fanfare, but its results have been tremendous. There is still much to do. Even though we might consider America the healthiest nation in the world, one look around convinces us that we have merely begun to whittle at the problem.

Industrial medical services have been greeted with a variety of reactions from established and practicing members of the profession. Some view the trend with concern; this particular group may be either coöperative or suspicious. Others view it with total indifference, indicating that such medical setups merely fulfill the demands of a compensation insurance clause and that the doctors so employed are engaged in a useless sinecure.

But it would seem, after all, in most progressive communities, that enlightened medical groups and an industrial medical service might exist for the mutual benefit of all concerned.

At the present time, when most war plants are owned or leased by the government, the taxpayer himself is actually supporting industrial medical services. And so we have socialized medicine, perhaps not too well disguised. It may be that the present administration, with its voiced intention of adopting its own Beveridge plan, may use this service as a stepping-stone to socialized medicine. But it is hoped by all of us that these services will revert to their rightful guardians when the war is over. We hope that this aspect will present no problem to the medical profession.

It is enough to say, in conclusion, that industrial medical services are considered necessary adjuncts in the handling of people, no matter how small or large the group. And apparently this phase of medicine is here to stay —and to prosper.

If an auto tire blows out, do not apply the breaks or throw out the clutch until the car has lost most of its momentum. Most authorities recommend putting the best tires on the rear wheels.

Spontaneous Subarachnoid Hemorrhage Due to Rupture of Congenital Aneurysm of the Circle of Willis

R. H. FENSTERMACHER, M.D.
VICKSBURG, MISS.

CONGENITAL aneurysm of the cerebral arteries is a very important factor in the causation of so-called spontaneous subarachnoid hemorrhage. Numerous sudden and unexpected deaths are due to spontaneous cerebral hemorrhages resulting from rupture of aneurysms located in the arteries of the circle of Willis. Cerebral hemorrhage occurring in the young and middle aged is often due to this condition. It is becoming increasingly important because it presents a fairly characteristic syndrome, so that clinical diagnosis is more frequently possible and this, in turn, results in prompt institution of helpful treatment. A certain medico-legal importance is also attached to the differentiation of spontaneous subarachnoid hemorrhage due to ruptured aneurysm from traumatic subarachnoid or subdural hemorrhage or, for that matter, any type of cerebral hemorrhage.

Since many cases with this condition have been reported in recent years the medical profession is being made to realize the frequency of occurrence. Martland[1] states that two per cent of sudden deaths are caused by rupture of aneurysms of the circle of Willis. In his series of 54 cases of aneurysm 38 were of the congenital type. The majority occurred in patients under 50 years of age and approximately one-third of his series in patients under 30.

Aneurysms are more common in the cerebral than in the systemic vessels, exclusive of the aorta. Ayer[2] believes that 50 per cent of patients with spontaneous subarachnoid hemorrhage recover. He cites a case of healing of an aneurysm in a patient with typical signs and symptoms who recovered and left the hospital. Two days later the patient was found dead from carbon monoxide poisoning and autopsy revealed a healed partially thrombosed aneurysm of an anterior cerebral artery. The surrounding brain tissue showed marked yellow discoloration.

Cerebral aneurysms have been described for many years. Gull[3] in 1859, stated that they frequently occurred in vessels otherwise free from disease. In 1887, Eppinger[4] suggested the congenital origin of these aneurysms. The regular phenomenon is an interruption of the elastico-muscular layer. He believed that was due to congenital defects in the arterial wall and suggested the name "berry" aneurysm because of their color, size and shape. More recently Forbus[5] has demonstrated the characteristic lack of muscle coat in the area of sacculation of these aneurysms. He believes the defects might arise because of improper embryonic fusion of the separately developed muscle coat of the main vessel and its branches. Some observations state that the congenital or embryologic theory will not always explain the formation of these aneurysms because the muscular imperfections may occur at some distance from the site of branching of the vessels which is supposed to be the common location of "berry" aneurysm. However, Martland[1] and others have found that these aneurysms show no special predilection for the areas of branching of the cerebral vessels but occur more or less symmetrically over the whole circle of Willis. Turner[6] emphasized the fact that syphilis or arteriosclerosis rarely plays a part in the etiology of these aneurysms. It is conceded today by most pathologists that these lesions are of congenital origin.

The symptoms of rupture of a cerebral aneurysm depend on the size and severity of the blood extravasation. Usually the patient is seized by a sudden, severe headache and then falls unconscious. There may be convulsions or deep coma. If death ensues it is never instantaneous but may occur from 30 minutes to hours or days after the onset. In many cases there may be small leakages from the aneurysm with continuous or alternate oozing of blood into the subarachnoid space. There is intense headache and frequently vertigo, photophobia, vomiting, stiffness of the neck and other signs of meningeal irritation. The rigid neck ofttimes leads to the preliminary diagnosis of meningitis. Spinal fluid examination then tells the story. Early, during the first twenty-four hours after rupture, the spinal fluid is grossly bloody and under increased pressure. Later the spinal fluid becomes amber-hued due to xanthochromia. If there is a question as to whether the blood in the spinal fluid is due to the puncture this can be answered by comparing the amount of blood or the depth of color of several specimens. On allowing the fluid to stand the supernatant portion will be xanthochromic in subarachnoid hemorrhage and colorless in a traumatic puncture. Fever is usually present, probably as a reaction to the blood. Occasionally hemorrhages are present in the retina and eye grounds may show slight to moderate degree of choking. Blood pressure is usually elevated because of the increased intracranial pressure. Occasionally in the ruptured aneurysm there is extension into the brain parenchyma with certain localizing signs. However, in such instances it is probably best considered as intracerebral hemorrhage or ordinary apoplexy.

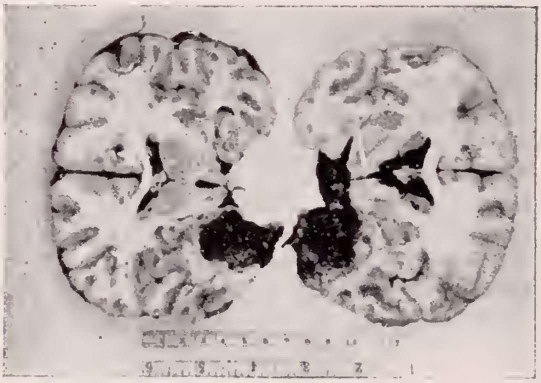

Fig. A.—Section through area of intracerebral hemorrhage, right temporal lobe.

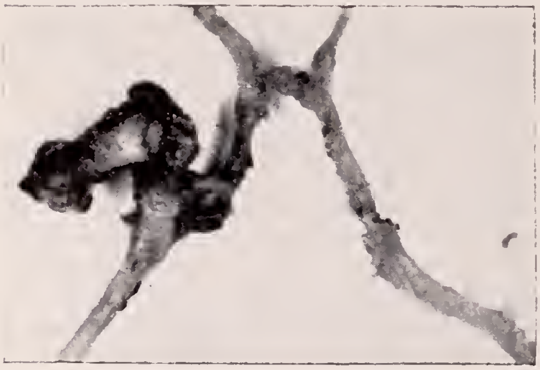

Fig. B.—Aneurysm, right middle cerebral artery.

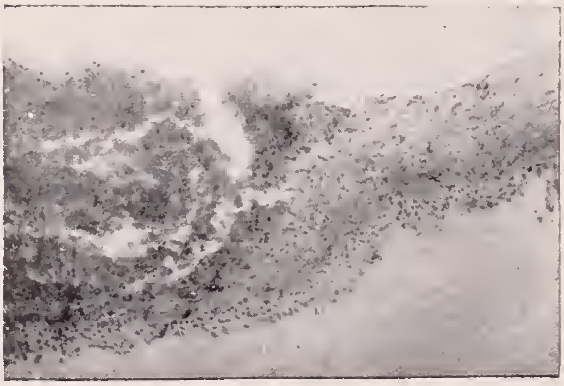

Fig. C.—Microscopic section through aneurysmal sac showing normal arterial wall on right and aneurysmal wall, devoid of muscularis, on left X 100.

Garvey[7] states that the diagnosis of intracranial aneurysm can not be made with any degree of accuracy until rupture occurs. Certain localizing signs may be observed before the rupture if the aneurysm is of large size. Probably a large number of intracranial aneurysms exist unrecognized because their size and location may prevent any neurologic evidence. These may be responsible for some of the vague headaches which are ascribed to migraine or allergic or psychogenic causes. It is a fairly well recorded fact that headache is a frequent prodrome in cases of verified intracranial aneurysms which go undiagnosed until the fatal termination from their rupture reveals the true cause. Aneurysms of the internal carotid arteries are many times diagnosed early because their intimate relation with the cavernous sinus causes frequent involvement of the third, fourth, fifth and sixth cranial nerves. In certain locations aneurysms of the anterior cerebral artery may cause compression of the optic and olfactory nerves. Aneurysm of the posterior communicating artery has been reported producing hemiopia by by implication of the optic tract. As a general rule however,localizing signs are of little diagnostic value in the majority of unruptured intracranial aneurysms. Roentgenography and angiography, according to Jefferson[8], are of very definite value in the diagnosis and localization of intracranial aneurysms.

The congenital of "berry" aneurysms are usually small, ranging in size from three to 15 mm. in diameter. They are found in the main vessels of the circle of Willis or its larger branches. Occasionally multiple aneurysms are found. Microscopic examination regularly shows the aneurysmal sac devoid of muscularis and internal elastic lamina.

Other congenital defects are very prone to occur in association with congenital aneurysms of the cerebral arteries. O'Crowley and Martland[9] reported seven instances in their 38 cases of congenital defects. Three showed bilateral polycystic kidney, two hypoplastic kidney, one the presence of Chiari's network in the right auricle and another abnormal position of the adrenals. Maude Abbott[10] in a series of 200 cases of coarctation of the aorta reported 18 cases in which death was caused by rupture of congenital cerebral aneurysm. Baker and Sheldon[11] emphasized this relationship in a paper in 1936.

In the case of ruptured aneurysm the initial spinal puncture may give the patient immediate and striking relief from headache, if he happens to be conscious, as well as assist materially in making the diagnosis. Once the diagnosis is made the argument as to the therapeutic repetition of punctures becomes quite heated. The two objects of treatment must be to relieve intracranial pressure and to promote healing of a bleeding artery. Rest, sedation, elevation of the head are essential and helpful. Vitamin K therapy checked by prothrombin time determination have been used. Phlebotomy is indicated if the blood pressure is markedly elevated. If headache is severe or there are signs of markedly increased intracranial pressure, cautious lumbar puncture may be done with removal of small amounts of fluid, being careful not to reduce the pressure to less than one-half the original. Recently however there is a feeling that the value of spinal puncture in this condition is overestimated. Nature does a beautiful job in absorbing the blood in the subarachnoid space and sequelae such as chronic arachnoiditis, epilepsy and insanity are not reported.

After the acute symptoms the patient should be kept in bed for six to eight weeks. Following this, activity is allowed but no sudden physical exertion or strong emotion. Since subarachnoid hemorrhage is prone to recur the patient's mode of life must be carefully regulated ever afterward. In fact the instructions given him are not unlike those given the patient who has recovered from his first attack of coronary occlusion.

In the unruptured aneurysm of the internal carotid, ligation of the internal carotid artery has been carried out successfully after adequate collateral circulation has been demonstrated by periods of digital compression.

The question of previous head trauma as a cause of cerebral aneurysmal formation is of great medico-legal interest. Is it possible for injuries of the head to cause small lacerations in the vessel wall leading to weakness, subsequent dilatation and later fatal rupture? Ayer states that it seems reasonable to support this theory and cites several case histories that make trauma and aneurysm seem like more than an incidental relationship.

Exertion or emotion commonly precede rupture of an aneurysm of the circle of Willis. In my experience one patient was shoveling snow, collapsed and died four hours later of a ruptured aneurysm. Another patient was a 30-year-old woman who collapsed while washing the family laundry. She showed the typical signs and symptoms with bloody spinal fluid. This patient recovered. The importance of this factor exists in those cases which occur in industry, particularly as regards compensation. A workman while performing his duties may suffer a rupture of a congenital cerebral aneurysm. An aneurysm is potentially dangerous and in all probability would rupture sometime, but most compensation courts would consider the exertion of the job sufficient aggravation or producing cause and rule the injury compensable. In such cases, in contradistinction to the patient with hypertension, vertigo, etc., who develops apoplexy, there are usually no pre-existing signs that might suggest the existence of an aneurysm. However, after a patient suffers one attack of subarachnoid hemorrhage and recovers, he should not return to hard labor.

Traumatic subdural or subarachnoid hemorrhage or intracerebral hemorrhages are not usually confused with spontaneous subarachnoid hemorrhage. In subdural hemorrhage the spinal fluid may be xanthochromic, but it is not bloody. Very occasionally traumatic subarachnoid hemorrhage results from brain laceration usually associated with skull fracture. Intracerebral hemorrhage may occur from apoplexy, brain tumors, trauma, etc. Intracerebral hemorrhage may enter the subarachnoid space secondarily. In some instances trauma may occur at or near the time of the rupture of a congenital aneurysm, or the patient may collapse and fall due to a spontaneous subarachnoid hemorrhage and strike the head. In such cases it is very important to determine the exact lesion present. Martland states that in a patient with subarachnoid hemorrhage, when an aneurysm is not found at autopsy, either it may have been missed due to lack of proper autopsy technique or else a defect may be overlooked because the aneurysm has entirely "blown out" and is lost in the torn tissues and surrounding hemorrhage. He also states that diligent search should be made of the entire circle of Willis, since innocent persons have been convicted of manslaughter in assault cases due to the bungling methods of some pathologists.

Case Report.—RUPTURED CONGENITAL ANEURYSM OF CIRCLE OF WILLIS.—L. J. Clark, M.D.

A colored female, age 33, admitted to the Vicksburg Sanitarium February 13, 1943, expired February 18, 1943. On admission the history obtained from the patient, who was stuporous and unable to give a very clear description of her illness, stated that she had been having headaches and convulsions for the past seven weeks. She did not know of any particular factor responsible for the onset of this trouble, but during this time headache has been severe and convulsions numerous. She had seen several physicians and had been hospitalized for a week, receiving temporary relief from headache and convulsions only after hypodermic injections. She was told she had epilepsy and that nothing could be done for her. She had also had irregular bouts of nausea and vomiting and thought she might have had fever. She admitted that at times she did not know what was going on about her and was unable to give a concise account of recent past events.

Past history was significant. Patient had always been healthy and had eight living children, no miscarriages. She stated that she has had a negative blood test for syphilis in the past. During the present illness the patient had missed two menstrual periods. There had been no weight loss and the patient had been able to eat well in the intervals between convulsions.

Physical examination revealed a well developed and well nourished colored female with normal blood pressure, pulse, temperature and respiration. She seemed dazed and complained of a great deal of headache. There was evidence of dehydration. Pupils were equal and contracted and did not react to light, possibly due to their small size. The fundi were not visualized. The neck was markedly rigid and the patient was unable to flex the neck. Heart and lungs were normal, abdomen was soft and there was no costovertebral tenderness. Patellar reflexes were absent. Other reflexes were negative.

On admission spinal puncture revealed bloody spinal fluid under markedly increased pressure, about 30 mm. of mercury. Five hundred forty-six leukocytes were present, 25% small mononuclears, 25% large mononuclears and 50% polymorphonuclears. Globulin was four-plus (4+) and colloidal gold and gum mastic test showed changes suggestive of cerebrospinal syphilis. Spinal fluid Wassermann, Kline and Young and Kahn were all four-plus (4+) and also the blood Wassermann. Red and white cell counts and hemoglobin were within normal limits. Urinalysis was negative except for 5% sugar after glucose administration.

The patient was much more comfortable after spinal puncture. After about 36 hours headache recurred and neck rigidity became more marked. It was deemed advisable to repeat the spinal puncture and the patient was much relieved for approximately twelve hours. She had a sudden hard convulsion, became comatose and died within 24 hours.

AUTOPSY FINDINGS: There was extensive subarachnoid hemorrhage present over the base of the brain extending well forward over the frontal lobes and posteriorly over the brain stem and cerebellum. There was edema and yellowish discoloration in the anterior portion of the right temporal lobe just inferior and posterior to the Sylvian fissure. The proximal portion of the middle cerebral artery, just beyond the anastomosis with the anterior cerebral was adherent to this portion of the temporal lobe. There was an aneurysmal dilatation measuring 13 x 7 x 5 mm. in this area. The aneurysm was thin walled and showed a 3 mm. perforation in its superior surface. This perforation was densely adherent to the temporal lobe and bleeding occurred into the brain tissue. Sections showed an area of hemorrhage 8 cm. in diameter in the right temporal lobe. Old layered blood clot was present around the margin and fresh blood in the central portion. The hemorrhage had burrowed into the brain tissue and perforated the wall of the inferior horn of the right lateral ventricle. The entire ventricular system contained free blood.

Microscopic section through the aneurysmal sac showed completed absence of muscularis and internal elastic lamina. Sections of other vessels in the circle of Willis revealed no evidence of syphilis and no congenital defects in the muscularis could be observed. In fact there was no gross or microscopic evidence of lues found in any portion of the examination.

Diagnosis: Ruptured congenital aneurysm of the right middle cerebral artery with subarachnoid and intracerebral hemorrhage.

Discussion: Upon reviewing this history one is impressed with certain features characteristic of cerebral aneurysm. This undoubtedly was one of the cases with small leakage rather than sudden massive subarachnoid hemorrhage. The signs and symptoms were slightly confusing but had spinal puncture been done early the correct diagnosis might have been made rather than the diagnosis of epilepsy. In view of the patient's positive blood and spinal fluid serology it was also well to keep syphilitic aneurysm in mind. However the findings simply help to substantiate the earlier statement as to the rarity of syphilis as a cause of cerebral aneurysm. It is not without reason to suppose that the patient's amenorrhea since the onset of symptoms may have been due to pressure on the hypophysis by the extravasated blood. The layered intracerebral blood clot probably is accounted for by the repeated episodes of bleeding. The final attack doubtless occurred with rupture into the ventricular system.

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Tuberculosis and Pneumothorax

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The term pneumothorax was first coined in 1803 to designate the existence of air in the pleural cavity. There is reference in the literature to the introduction of air into the chest for treatment of disease by Greek physicians in the fourth century B. C. Pheumothorax was suggested as a treatment in Italy in 1888 by Forlanini. It was first practiced here in this country by Murphy in 1898. Until the past few years this form of treatment showed little progress. However, since its progress began it has—as many innovations in treatment have—had relapses of popularity and in many instances been grossly overdone. Less than a generation ago tuberculosis was the undisputed leader as a cause of death. During the past decade there have been startling achievements toward the eradication of this disease. Should the strides that this nation has been taking in that direction not be broken, I do not believe that it is presumptuous to think that virtual eradication of tuberculosis is possible. However, it is still a great medical and social problem. There are difficulties yet to be overcome and we can only balance them with the resources that we have. Continued and intensive public health education and treatment are our resources. There is both a passive and an active treatment. From a standpoint of active treatment there are various phases of collapse therapy: (1) pneumothorax (2) intra-pleural pneumolysis (3) interruption of phrenic nerve, temporary and permanent (4) scaleniotomy (5) thoracoplasty. I should like to discuss briefly today pneumothorax as a form of collapse therapy.

Every patient is an individual case and every patient differs in his local and general reaction to infection. Passive, or expectant, treatment of tuberculosis is founded on the principles of general rest, fresh air, and wholesome food.

Collapse therapy is an adjunct, or supplementary treatment, to this time-tried triad. Therefore, pneumothorax as treatment should be placed in that category that lies between passive treatment which is certainly the most conservative and thoracoplasty which is the most radical. In most cases expectant treatment should be tried for a reasonable length of time before pneumothorax is attempted. There will be many cases, however, in which pneumothorax will be indicated early. The great majority of individuals suffering with tuberculosis are without abnormal physical signs. As a matter of fact they are often without any signs or symptoms at all in early tuberculosis. It is true that early signs and symptoms should be a vigilance of the physician and the individual, but too often when these become discernible the patient is already in an advanced stage of the disease. The onset of tuberculosis is insidious and one case comes from another. Hence when we stop to consider that frequently it is late rather than early when a great many cases are diagnosed we can assume that almost any early case would indicate early expectant treatment. Thus it is frequently that we find comparatively late that case on which we would wish to institute pneumothorax immediately. In the event pneumothorax is to be started one must never lose sight of the fact that the case is a selected one. It should never be given in a haphazard sort of manner and certainly never routinely. Any patient on whom such a procedure is begun should in all fairness be given the benefit that his case would derive from a careful deliberation and study as to the wisdom of whether it should be given this particular type of collapse therapy. Study of these cases is made satisfactorily from fluoroscopic examination and series of x-ray films. When favorable progress is not made from general rest and expectant treatment, collapse therapy is usually indicated. Suffice it to say that we all wish to care for our patients under those conditions that are most productive of a favorable outcome. In the indication of the pneumothorax and the giving of the subsequent refills, it is ideal to have the patient in a sanatorium surrounded by all the available facilities of x-ray and fluoroscope and where strict bed rest can be supervised. In the event that this is not feasible it is well to have as many of these facilities as possible. As a matter of fact it is not at all possible to carry on this type of work unless a great deal of them are on hand.

It is conservative to state that most patients with moderately advanced lesions, and certainly patients with far advanced lesions, should be on strict, or only slightly modified bed-rest on a sanatorium type of regimen until a satisfactory collapse of the pulmonary lesion has been obtained. A minimum of two months is usually required to obtain a stable and satisfactory collapse particularly with far advanced lesions. This would mean that the patient is on strict or at least modified bed-rest during this period. Therapeutic pneumothorax is in my opinion the only type of collapse therapy that might shorten bed-rest. It certainly does not eliminate it.

During the initial induction of the pneumothorax two hundred to three hundred cc. of air are introduced into the pleural sac. This is repeated on the second and third days. Then refills of three hundred to four hundred cc. are given twice each week for a week or two; then once each week until the desired collapse is obtained and then maintained unless complications necessitate the use of longer or shorter intervals or the procedure is proved to be unsatisfactory. Frequent small refills seem to be the best procedure to follow. Longer intervals which would of course necessitate larger refills appear to allow a partial reexpansion. The small frequent refills allow the pneumothorax to exert a steady, uniform compression which is most desirable. According to Franklin and Zavod the cases of pneumothorax attempted may be classified as follows: 1. Operative Failure: those cases in which no free pleural space, or only a small, inoperable space could be obtained. 2. Therapeutic Failure: those cases in which an operable pneumothorax was obtained, but the pneumothorax alone was not sufficient to collapse the pulmonary lesions satisfactorily. 3. Therapeutic Success: those cases in which the pulmonary lesions were satisfactorily collapsed by pneumothorax alone. 4. Incomplete: those cases in which the period of treatment is too short to determine whether their classification is therapeutic failure or therapeutic success.

An x-ray should be made on each patient just before induction. Each case should be followed by fluoroscopic examination and as soon as an air space is seen an x-ray should be taken. During the first few days of pneumothorax the patient is fluoroscoped frequently. After a regular schedule is arranged one fluoroscopy each week just prior to introduction of air should suffice. As soon as it is revealed that all cavities are closed an x-ray is taken and sputum examined. If no cavity is seen upon study of the film and sputum is negative on two occasions within three to four weeks, consider the date of closure of cavity as the date of the x-ray. Series of x-rays and sputum examinations are invaluable in following up and studying these cases.

There are indications and contra-indications for pneumothorax. Many of these go hand in hand. For instance such complicating factors as diabetes and pregnancy rather than contra-indicating the establishment of a pneumothorax may immediately call for it. I believe that in latent tuberculosis that common sense should be the deciding factor. If the disease is inactive, it would certainly be best to forego this procedure. On the other hand if the disease is active pneumothorax may be the choice of treatment. Patients with hypertension usually do not do well under this treatment. On the other hand a valvular heart lesion well compensated offers no contra-indication. The extremes in age usually are not indicated. There are, however, exceptions to this. Asthmatics have been known definitely to improve. It is needless to say that an ineffectual pneumothorax should be discontinued.

There are complications and dangers associated with this as with every other treatment in medicine. Air embolism and pleural shock are rare complications, but they do occur. Spontaneous pneumothorax and spread of disease to the contralateral lung may occur. Usually with judicial use of collapse therapy as treatment this is sometimes avoided. Pleural effusion occurs frequently. There are two types—the "cold" and the "hot" effusions. The "cold" effusions are usually not serious. They may appear as fleeting collections of fluid or in smaller or larger amount. Frequently they disappear spontaneously, particularly if very small. There is rarely ever any febrile reaction or other symptoms to indicate their presence. They are as a rule discovered accidentally upon fluoroscopic or x-ray examination. "Hot" effusions on the other hand are serious complications, particularly those of mixed infections. They always have an acute febrile onset and will always show tubercle bacilli on smear or guinea pig inoculation. Definite routines of treatment are necessary generally to cure these.

The actual treatment of tuberculosis is—and always has been—founded upon the principles of rest. The purpose of pneumothorax is to put the diseased lung to rest. When this procedure is instituted, the lung is then forcefully put to rest. Thus we have the local factor of rest supplementing the general factor. The object of pneumothorax is to compress the cavities and the diseased tissue. Thus the healing of the lesions is facilitated, the sputum rendered negative, and the toxemia of tuberculosis is controlled because the source of toxemia is shut off and the further absorption of toxic products eliminated. The symptoms of tuberculosis are as we know—fever, night sweats, loss of weight, loss of appetite, malaise, and rapid pulse. These are all manifestations of toxemia. With the checking of toxemia, these symptoms gradually disappear and the natural healing forces of the body are able to exert their influence.

Thus with this splinting of the lung to put it to rest we have the basic principles of rest in conjunction with the mechanical factor of bringing the diseased tissue together by compression and the physiological factor of the elimination of the toxemia and the rendering of the sputum negative.

Aside from the factor of actually aiding a person to regain his health there are other factors that become the end-products of the benefit that artificial pneumothorax will foster. These are briefly: (1) PUBLIC HEALTH ASPECT: When a diseased lung is satisfactorily collapsed and the tubercle bacilli disappear from the sputum, we have rendered these patients harmless to those people with whom they come into contact. Thus that particular unit has been disposed of as being a menace to public health. (2) SOCIAL AND ECONOMIC ASPECT: If a person's stay in a hospital or a sanatorium is shortened and if that person can again take his place in society to maintain his own support or those whom he is responsible for or at least take the burden from another person, then we have solved a problem that from a social and from an economical viewpoint is one of our greatest. (3) TIME ELEMENT: This factor more or less embraces the foregoing two mentioned.

Strict bed rest with sanatorium care has been stressed. This, of course, is ideal. I do not want to give the impression that pneumothorax can only be given to those patients who are in a sanatorium or who are on strict bedrest. But I do think that the more favorable the condition under which these procedures are carried out, the more favorable will be the outcome. And I further believe that the closer sanatorium care can be approximated in any case that the more cures will be effected by the use of therapeutic pneumothorax in the treatment of tuberculosis.

Endometriosis

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Endometriosis, as a term to include a variety of lesions associated with the female pelvis which have the functional and also the histological features of endometrial tissue of the uterus, originated with Sampson in 1921.

The etiology of endometriosis is still a debatable and controversial subject, and it is apparent that no theory acceptable today fully explains all aspects of this interesting condition.

In 1896 endometriosis was considered to have its origin in the mullerian duct, however, Von Recklenghouser suggested its origin from the Wolffian system. Since that period numerous theories have been advanced, the majority of them having been discarded, leaving most prominent today the theory of Sampson which is probably more plausible, and the theory of Robert Meyer made prominent in this country by Novac.

Sampson's hypothesis is that of tubal regurgitation or the theory of retrograde menstruation, in which uterine endometrium is deposited on the peritoneal covering of the pelvic or abdominal viscera, acting as living implants of endometrium being influenced in their growth by hormonal stimuli similar to normally placed endometrium. Meyer's theory (Novac) explains endometriosis as arising from the celomic epithelium, creating an endometrial-like tissue by a complex process of heteroplasia and metaplasia. This theory also embraces the ideas of aberrant endometrial tissue being stimulated to activity by excessive hormonal stimuli. This theory would probably explain many extrapelvic growths by a comparison of carcinomatous implants in the abdominal cavity in which there is no conceivable method of implantation of the carcinomatous cells other than being swept over the peritoneal cavity from its original source and becoming implanted in its new location. It is apparent that Novac and Sampson are becoming more in agreement as to the true etiology.

Leaving the etiology as still a debatable question there are several definite facts that have been proved without question. First is the frequent association of endometriosis, endometrioma, hyperplasia of the endometrium of the uterus, fibroid tumors of the uterus and adenoma of the female breast. This association immediately suggests the underlying causative factor of endometriosis, that of excessive estogenic stimuli. This can also be demonstrated by the giving of large doses of estrogenic substance to a castrate female, producing a normal menstrual flow. It has also been adequately demonstrated that retrograde menstruation does occur and that endometrial tissue can exist and grow in the fallopian tube. This fact further substantiates Sampson's theory.

Second, is the frequent association of sterility with endometriosis, explained by the endometrial hyperplasia and the excessive estrogenic stimuli producing multiple follicular cysts of the ovary in the absence of ovulation and the formation of corpora lutea.

Third, is the age group; endometriosis is found active in the female during her normal menstrual life, most frequently from 20 to 50 years of age.

Histologically, endometriosis is the picture of normal endometrium undergoing hyperplasia and secreting a chocolate colored fluid characteristic of menstrual blood. However, other cysts, such as follicle hematoma, corpus luteum hematoma, cystadenoma, etc., may secrete a chocolate colored fluid but they do not have the histological structure of endometriosis. Contrary to some beliefs true endometrial cysts do not exist any larger than an orange (Sampson).

Endometriosis may be found on any pelvic organ, on the abdominal viscera, in the appendix and even in the groin. It is characterized by a cluster of brownish nodules or cysts implanted on the host tissue, deriving its blood supply from that tissue.

Endometriosis is not as frequent as one might assume; in all reported series the incidence is very small and is more prevalent in white than in colored women.

The diagnosis of endometriosis presents a problem in which all authorities on the subject admit an unusual difficulty. However, the symptoms are those of misplaced endometrial tissue undergoing normal physiological activity. The most prominent and constant symptom is acquired dysmenorrhea of a progressive type. The severity of the pain is in proportion to the amount of involvement of the endometriosis and to its location. The pain begins before menstruation, becomes more severe as the period approaches and lessens as the period is finished. This pain is distinguished from primary dysmenorrhea in that it is somatic in nature, referred back over the spinal nerve from the area involved and is frequently made worse by exertion. The pain of primary dysmenorrhea is visceral, more localized to the uterus and is due to an involvement of the uterine musculature. The pain of endometriosis is due to the menstruating endometrium, its increase in size and tension with the accumulation of fluid in the cyst, and also due to the highly irritating quality of this fluid when spilled on the peritoneum. The pain is not always in proportion to the degree of involvement, as large extension endometrial cysts may give less pain than smaller cysts. Peritoneal endometriosis gives less pain than pelvic endometriosis.

Dyspareunia is a very prominent symptom and may be due to involvement of the cul-de-sac or to fixation of the pelvic viscera.

Menorrhagia is often an associated symptom due to the hyperplasia of the uterine endometrium. There may also be irregular menstrual bleeding.

In considering the diagnosis of endometriosis there are frequent predisposing factors which may play a part in its production. Dilatation and curettage with a regurgitation of endometrium, stenosis of the internal os of the cervix and salpingectomy may initiate endometriosis.

The physical findings may vary so much as the symptoms. Classically, the utero-sacral ligaments are studded with small, firm, tender masses the size of a pea. There is always pelvic discomfort on bimanual examination, varying with the degree of involvement and the location of the endometriosis. The uterus is generally fixed, as in an acute pelvic infection with a mass or doughy feeling in the cul-de-sac, broad ligaments or adnexa. The uterus is frequently retroflexed or fixed. A woman actively menstruating, frequently around 30 years of age, complaining of an acquired and progressive dysmenorrhea, frequently sterile for several years, having on pelvic examination small masses in the cul-de-sac, a retroflexed uterus, and an enlarged, painful ovary, presents a picture seldom seen in any other condition.

Treatment is always operation, or less frequently radiation. Originally it was thought necessary to remove all ovarian tissue in the presence of any misplaced endometrial tissue. However, it is accepted at present that this axiom does not always hold true. The age of the patient, the location and extensiveness of the lesion or lesions determine whether or not all ovarian tissue should be removed. Theoretically, the removal of the estrogenic stimuli is necessary to insure the complete eradication of endometriosis, but this does not always hold true. In our series of 18 cases we have had to re-operate only on one patient for recurrent endometriosis, and this particular patient had a sub-total hysterectomy with the removal of both ovaries, the recurrence originating from a small piece of ovarian tissue inadvertently left in the left adnexa. Contrariwise we have removed one ovary showing definite endometrial changes, both macroscopically and microscopically, leaving the other ovary, the patient showing no evidence of recurrence and even becoming pregnant with a normal delivery. Whether or not to remove all ovarian tissue at the primary operation, therefore, must be determined by the individual surgeon on each individual case. It is natural to assume that, as an individual approaches the menopause it is much more advisable to remove all ovarian tissue, if possible, in the young woman, carefully watching the pelvis at periodic intervals, as I feel the additional period of ovarian activity outweighs the hazzard of a second operation or radiation. In the surgical removal of endometrial cysts it is absolutely necessary to be scrupulously clean in its removal, as any spill is highly irritating and a frequent source of recurrent implants either in the abdomen, pelvis or wound. Small endometrial implants on the peritoneum may be adequately handled by destroying cautiously each implant with the electric current, care being exercised not to destroy or injure the underlying structure. Radiation should be used for surgically poor risks and in those cases, which are relatively few, in which all the endometrial tissue can not be safely removed.

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There are 201,272 physicians listed in the new 1942 American Medical Directory. From the preceding edition 8656 names were dropped, and 15,223 new ones were added. The Directory is a valuable addition to one's library.

Abortions

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ANY EFFORT to make a discussion of this topic will necessitate a classification of abortions. Abortions are deliveries of the products of conception up to the period of viability of the fetus, up to the fifth month of pregnancy when they become miscarriages. Any delivery of the product of conception beyond the seventh month may be called premature labor. Whether an abortion be spontaneous, induced, or habitual is often hard to determine, but its determination is important in order to treat the woman more appropriately in the future. Abortions then may be classed as threatened, inevitable, incomplete, complete, or septic. Perhaps all induced abortions are best called septic, though all do not run a septic course.

There seems to be a gradual swing away from the vigorous treatment of the threatened abortion, probably no more being advised than bed rest, sedation and a bit of some uterine sedative or hormone. Nature has a great way of dealing with things, and maybe threatened abortion is an effort at disposing of a monstrosity, a badly implanted pregnancy, or in protecting the health of the mother.

The management of the habitually aborting woman is one of thorough investigation. Her general health is to be considered the basis of investigation with special care being exercised in investigation of the pelvic viscera. Appropriate treatment is indicated to right the wrongs found, medical or surgical.

But it is the incomplete abortion, whether septic or aseptic that I wish to dwell upon. And the same management may be carried into the miscarriages or premature labors, evaluating each case upon its own merits.

In these cases the old manner of care that I learned in medical school was largely a matter of letting the patient get well if it were in the books for her to do so. Absolute conservatism had much better mortality in its favor than the radical procedures. But one has to look back at the extremely ill women in the wards, who were there for so long a time at such a tremendous expense, suffering terribly, to realize that such a manner of care was far from the answer to what should be done.

We do not claim to have found the answer to all the cases. Since most of these cases are streptococcal with retained secundines to serve as causes of bleeding and as nidi of infection, and we have at our disposal the sulfonamides, sulfanilamide and sulfadiazine being considered almost specifics for streptococci, and believing that sulfonamides are more effective before suppuration has become established, we have about developed a fairly routine management for these cases.

History and physical examination are the customary procedures with the necessary laboratory work done. The patient is then surgically prepared for D. & C., giving no douche or enema. The necessary preoperative medication is given and upon arriving at the operating room, one injectable dose of ergot. Suitable anesthesia is induced and after aseptically preparing and draping the perineum the vagina is cleaned of clots and irrigated with soapy water or saline. The cervix is anchored with a piece of umbilical tape and then dilated widely enough to admit a sponge forceps. This is used to clear out the larger clots and pieces of the product of conception. Then the uterus is revised with a sharp curet carefully until all bleeding has ceased. Use of a sharp curet in such a boggy uterus is strictly a procedure for a surgeon. One must exercise great care. We repair old lacerations at this stage of the operation. Then the uterus is moderately tightly packed with a uterine pack, saturated in glycerin, one ounce, to which has been added 5 grams of powdered sulfanilamide.

The glycerin is sterile. We have used the glycerin only in a few cases with equally good results and attribute its efficacy to its hydroscopic power. But there is no reason, barring sensitivity to sulfonamides, not to use the additional safeguard. The pack is removed in 24 hours, and one hour prior to its removal we give one dram fluid extract of ergot.

We have never failed to have fevers, some as high as 105° F, return to normal in 12 hours, remain normal after removal of the pack. Our patients required no hospitalization in excess of 48 hours, needed no transfusion in but one case, and this was done while curettement was being done without amiss. After going home, on the back seat of a car, they remain in bed a week, using pitcher douches with some antiseptic as directed, and on check-ups in a month we have seen old erosions well, adnexal tenderness gone, and good involution. Perhaps there has been a bit too much involution in two cases.

We think so much of the method that it is a routine in all abortions whether septic, spontaneous, or therapeutic. One case of asepsis in a breech full-term delivery was handled the same way. She had the same postoperative course. This was the result of a midwife's meddlesomeness.

Diagnostic Hints in Gynecology*

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Stellate injuries to the cervix always mean that the tearing has extended to the anterior and posterior parts of the cervix as well as to the sides.

A patient with acute pelvic cellulitis usually complains first of pain in the lower abdomen, which is greatly aggravated by movements.

Infantile genitalis usually predisposes to sterility.

Pelvic floor lacerations with relaxation allowing the escape of the spermatozoa is often a cause of sterility.

New growths, cysts or inflammatory reactions about the ovaries may prevent the formation of expulsion of ova, and thus cause sterility.

Endocrine dysfunction is very often the cause of sterility. This should be suspected when a thorough examination reveals no other causes.

Endocervicitis with excessive secretion is a rather common cause of sterility.

Uterine displacement with adhesions about the ovaries is often a cause of sterility.

A sterility that is produced by a gonorrheal salpingitis is a permanent condition and there is no way to correct it that will prove successful.

Look for an inflamed breast in a nursing woman who has symptoms of the grippe.

A history of repeated uterine bleeding following an expulsion of a "mole" should make one suspicious of a chorionepithelioma.

Stricture of the uterine cervix is manifested by persistent leukorrhea, dysmenorrhea, the passage of tarry menstrual blood, and pelvic discomfort of varying intensity.

Many cases of amenorrhea have a minor pituitary aspect.

Many women with thyroid disease have an associated dysmenorrhea without demonstrable anatomic changes in the pelvic organs.

The typical congenital, anteflexed uterus is a small uterus, with a long conical cervix.

A pelvic abscess is usually the result of a leaking tube.

Developmental cysts of the vagina are always multiple, are arranged in linear fashion on the side wall of the vagina and in any part of the introitus as far up as the lateral fornix.

Low backache, pain in the hips and down the thighs, and often pelvic soreness and distress are not uncommon symptoms secondary to foci in and about the cervix.

Pelvic peritonitis is the most common cause of retroversion of the uterus.

Trichomonas vaginalis is regularly found in the vaginal discharge of women complaining of offensive leucorrhea presenting a characteristic clinical picture.

Persistent vomiting in a non-pregnant woman, especially in a young woman, is most likely of ovarian origin.

Bleeding from the uterus may not always be due to local pathology. At times it is due to an underlying blood dyscrasia.

Leucorrhea is perhaps the most constant and most common sign of pelvic disorder. It is the first to become manifest and the last to disappear.

An ovarian tumor, particularly one which is malignant, is usually hard and firmly adhered to the uterus, thus simulating a fibroid mass. Irregular hemorrhage is a rather common characteristic of these tumors.

Central backache is the type of backache most often found in association with uterine displacement. Backache of the lumbar type is frequently extra pelvic in origin.

When carcinoma of the uterus develops before the climacterium it is usually associated with fibroids.

Stenosis of the cervical canal is quite often the sole cause of dysmenorrhea.

Pain in the lower abdomen is at times due to chronic cervicitis.

When bleeding of the uterus occurs during menopause it may be due to either benign or malignant growths. The benign lesions are: hypertrophic endometritis, fibroid polyps, fibroids, mucous polyps, and rarely atrophic endometritis. Adenocarcinoma and sarcoma are the malignant growths that cause bleeding at this time.

Bearing down pain, althought most frequent-caused by prolapse, may also be caused by vulvovaginitis. Only through a pelvic examination will the real cause be established.

In chronic inflammation of the female pelvic organs the pain is usually aggravated for a day or more before the menstrual periods and relieved after the flow is well established.

A very common cause of pain low over the brim of the pelvis is a lacerated, catarrhal cervix.

Prolonged bleeding in the peurperium is quite frequently due to a retroflexed uterus.

A fibrous polypus projecting from the cervix and ulcerating, causes intermittent or continuous bleeding and such polyps are most often found in women at or after the menopause.

One of the most common causes of retention of urine in women is a cervical fibroid. This may be preceded by several months of amenorrhea and bladder irritability. The patient is usually in the late thirties and she is multiparous. There is usually no history of amenorrhea.

An incarcerated intraligamentous growth often causes a very severe type of pressure pain. Quite often this pain is referred to the limbs.

It can be stated in general terms that abnormal vaginal bleeding in young, unmarried women is usually systemic, while in older, married women, it is likely to be local.

Reflex dysmenorrhea occurs quite frequently and is associated with some disturbance in a distant part of the body. The most common cause is some pathological condition in the nose.

A woman menstruating regularly at the age of fifty should be suspected of having a uterine fibroid, for fibroids have a tendency to prolong the menses.

Fibroids do not begin bleeding after the change of life. They never become active after the menopause has been established.

The primary symptoms of uterine fibroids are hemorrhage, leucorrhea, pain, pressure, dysmenorrhea, sterility and disturbance of pregnancy, labor of the puerperium. The secondary symptoms are anemia, thyroid and cardiovascular disorders.

All infected fibroids are painful, while uninfected fibroids are usually not painful.

Epidemic Kerato-Conjunctivitis*

Incubation Period. Five to ten days.

Clinical Manifestations. The onset may be preceded by a low fever and mild generalized malaise. The local ocular symptoms are merely those of a foreign body on conjunctival irritation. One eye is usually affected first, and in a large percentage of cases the second eye becomes infected within five to eight days. Preauricular and submaxillary glandular involvement with tenderness is common in a high percentage of cases.

Edema of the lids and the conjunctiva, especially the transitional fold, is very frequent. The conjunctiva presents the appearance of a simple purulent conjunctivitis but with little or no formation of pus. Small areas of pseudo-membrane are not infrequent and when removed leave either small white dotted points or some bleeding points. The bulbar conjunctiva becomes edematous early. At this stage, there is some lacrimation and photophobia, but real pain and blepharo-spasm do not appear until the cornea becomes involved.

The percentage of cases in which corneal involvement occurs varies from 50% to 90%. In six to twelve days after the conjunctivitis appears, the cornea becomes involved by the appearance of discrete gray infiltrates that lie in and immediately under the epithelial layer of the cornea. They may be confined to the periphery of the cornea but in a large percentage of cases involve the pupillary area of the cornea directly. These infiltrates are discrete and seldom become complicated by an erosion of the corneal epithelium with resultant staining with fluorescin. The extent of visual impairment depends upon the number of infiltrates and their location.

Clinical Course: The disease is self-limited. In the majority of instances, the conjunctivitis disappears spontaneously in 14 to 18 days. The corneal complication may disappear in seven days or may last for many months. The longer they persist the greater is the danger of permanent visual impairment.

Laboratory Findings: Scrapings of the conjunctiva show a preponderance of monocytes. Cultures and smears are either negative or show the usual contaminations.

Treatment: There is no specific treatment that has shown a definite influence upon the course of the disease. During the acute stage the eyes should be kept clean with irrigations of boric acid, normal saline, or one to five thousand oxycyanid of mercury. If there is much photophobia, one per cent holocaine may be instilled at frequent intervals. Five per cent sulfathiazole ointment has been used, as has five per cent solution of sodium sulfathiazole sesquihydrate. For persistent corneal infiltrates, x-ray has seemingly yielded some results.

Period of Infectivity: It is not yet known how long the danger of transmission to others exists. At present for practical purposes a sufferer from active conjunctivitis has disappeared.

Preventive Measures: At present the only preventive measure known is complete isolation of infected persons. Inasmuch as the disease has been transmitted through medical personnel, the most meticulous asepsis must be insisted upon. Not only must physicians and nurses wash their hands thoroughly with soap and water after each patient, but also eye droppers, solutions, instruments, etc., must be sterilized to prevent infection of non-contaminated persons. The infected individual must be told of the danger of transmission of this disease to others, not only in the plant, but even in the home surroundings. It is suggested that in industrial plants where epidemic kerato-conjunctivitis has made its appearance the following methods of procedure be adopted:

1. In smaller plants with a limited personnel, every individual with a red eye should be stopped at the entrance of the plant and sent direct to the plant physician to determine whether or not epidemic kerato-conjunctivitis is present.

   In larger plants where such a procedure is not possible, supervisors and foremen should be instructed in detail to make rounds immediately when a fresh shirt starts, and send any individual with a red eye to the medical office.

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*Special warning bulletin issued by council on Industrial Health, American Medical Association, Chicago, Illinois.

2. If the cases are to be treated at the medical department of the plant, a separate room should be set aside for such cases and in that room there must be exercised the most scrupulous asepsis even to washing off the arms of the chairs in which the patients sit. Aside from the aseptic and separate care of the recognized cases of the disease, special cleanliness of the hands of the physician in the general clinic should be maintained, with the use of an effective disinfectant between cases, lest the infection be spread by means of undiagnosed cases, especially those suspected of having foreign bodies in the eye.
3. Every case of epidemic kerato-conjunctivitis should be excluded from the communal facilities of the plant until the inflammation has subsided to the point where the plant physician considers it no longer transmissible.
4. Explicit instructions should be given to every individual regarding the danger of transmission, and emphasizing the decrease in the war effort as a result of the time lost from epidemic kerato-conjunctivitis.
5. The local health authorities should be notified immediately of the existence of individual cases.

This statement has been prepared jointly by the United States Public Health Service and the Committee on Industrial Ophthalmology of the American Medical Association, for distribution to all physicians.

The Doctor of Medicine and His Responsibility*

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IT IS THE duty of every doctor of medicine to prevent illness, to supply adequate medical care to those who are ill, to perpetuate the science of medicine and to encourage medical investigation. It is true that the average physician would prefer to go unregimented among his sick and administer to their needs, irrespective of race, color, creed, or financial status, rather than busy himself with administrative and political problems. However, since the courts have ruled that group health is a business and have found that medical societies are guilty of restraining trade when attempting to maintain the standards of the practice of medicine, a challenge has been issued to the medical profession: Is there a necessity for lay groups and the federal government to take over the control of the practice of medicine?

Has the science of medicine reached its zenith? Have the men and women of medicine become so decadent that they are unable to assume their responsibilities? Are the doctors of medicine no longer able to conduct their practice without government control? Do they lack ability to appreciate their problems? Or are they incapable of constructive leadership in the solution of the numerous responsibilities that are confronting the medical profession today? The reply is, "No."

The science of medicine has been nurtured by men and women who have advanced the knowledge of relieving pain, correcting deformities, lowering infant mortality, prolonging life and preventing illness by sanitary and public health measures. This progress must continue if civilization is to survive.

The medical profession recognizes the necessity of state and federal control of communicable diseases and medical services to inmates of state and federal institutions. It appreciates its responsibility to the armed forces and expects to supply the needed personnel. It is willing to coöperate with welfare agencies in providing this care, it believes that the medical service is augmented when the patient-physician relationship can be maintained by permitting the patient, whenever possible, to choose his own physician. In order to protect the public from worthless, so-called medical procedures and unnecessary operations by unscrupulous individuals, it likewise believes that high standards of medical education and practice must be maintained. This applies not only to the practice of medicine in the office; it applies to the practice of medicine in the humble home or in the most modern hospital.

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*Read at the meeting of the National Conference on Medical Service, February 14, 1943. The address has been somewhat abridged in this publication.

Although medical education begins in the medical school, it is never completed as long as the physician continues his practice. Medical schools have adopted standards of education and have required certain courses of study in order that the public might avail itself of the best practices of medicine. Medical licensing boards have further protected the public by requiring of their candidates for licensure prescribed courses of study. State laws governing the practice of medicine and conduct of physicians further protect the public from irregular practices and charlatans.

Medical societies, county, state, and national, have been organized to further the education of the physician by acquainting him with the advances and new discoveries in the science of medicine. They likewise serve as administrative units in the consideration and solution of medical problems. It is obvious that the responsibilities of the respective state organizations are greater than those of the county organizations, and that the national organization is charged with greater responsibilities than those of the state organizations. However, it is also obvious that the activities of all groups must be integrated if medical problems are to be solved effectively.

The national organization, through its respective bodies and committees, has conducted an excellent program in furthering medical education. It has crystallized the standards of medical education for the medical student as well as for the practitioner of medicine; it has investigated the claims of new and non-official remedies, foods and therapeutic measures and has further protected the public by approval or disapproval of the articles investigated. It has acquainted the public with the important role that the science of medicine plays in its daily life, but apparently it has not gained the confidence of the national administrative and legislative bodies that some of the state medical societies have attained. Therefore, the recent court decision has emphasized the weakness of conducting a program of education to acquaint the public, the administrative and legislative bodies of certain states, and the national institutions with the important function of the science of medicine in our civilization. It is our duty, as physicians and citizens, to assure those in administrative positions and legislative bodies that we are familiar with the social and economic changes that have thrown greater responsibilities on the medical profession and that we stand ready to coöperate with these agencies in offering leadership in the solution of the numerous problems which non-medical personnel are trying to solve.

The chief medical problem that concerns doctors of medicine and welfare agencies is that of providing adequate medical care to those who are financially unable to procure this care. This group includes those who are indigent and those with low incomes. However, as a result of the recent social and economic changes, the government has taken over more and more control of the civilian's activities, and those with moderate and low incomes have been less willing to assume their obligations of medical care and are insisting that it is the government's duty to provide medical care and that it is the individual's privilege to squander his extra change.

The problems of this group cannot be solved by physicians alone or by federal, state, and local welfare agencies alone. Ours is a joint responsibility. Conscientious leadership by physicians working in coöperation with county, state and federal agencies can and will bring forth a solution of the problem. Medical service must be rendered, and the physician is willing to give a good portion of his services. But the government must provide reasonable funds for the care of its indigent, as it must provide for catastrophic illness in the low income group. Nevertheless, those who come within the low income group should likewise be made to realize that they too have a responsibility to their local, state and federal governments and should be encouraged and advised in budgeting their income and expense.

These controversies give rise to discussions on the necessity of compulsory medical insurance. Should such a program evolve, results would be disappointing from the patient's as well as the physician's point of view if placed under the control of political bureaus, and the patient would be deprived of his free choice of a physician.

Therefore, we as physicians believe that a more equitable solution of the perplexing medical problems referred to will be reached if we are permitted to consult and advise administrative officials, legislative bodies, and welfare agencies, since we are more familiar with the medical needs of our respective communities than are those who have a casual knowledge of the medical necessities.

It is befitting to quote the statement found in the opinion written by Justice Miller, of the United States Court of Appeals, of the District of Columbia, in the case of the United States of America versus the American Medical Association, and the case of the United States of America versus the Medical Society of the District of Columbia. The italics are mine.

> "It may be regrettable that Congress chose to take over in the Sherman Act the common law concept of trade, at least to the extent of including therein the practice of medicine. Developments which have taken place during recent decades in the building up of standards of professional education and licensure, together with self-imposed standards of discipline and professional ethics, have, in the belief of many persons, resulted in substantial differences between professional practices and the generally accepted methods of trade and business. As we pointed out in our earlier decision, the American Medical Association and other local medical associations have undoubtedly made a profound contribution to this development. *However, our task is not to legislate or declare policy in such matters, but rather to interpret and apply standards and policies which have been declared by the legislature. That Congress did use the common law test there is no doubt. That Congress was not otherwise advised was perhaps because of the failure of the professional groups to insist upon the distinction and to secure its legislative recognition.*"

Does the medical profession of this country need a stronger invitation, or a more direct challenge to take an intelligent, helpful and fair stand in the enactment of legislation that not only concerns the public welfare but the welfare of medicine itself? Does not the medical profession of this country, as citizens and taxpayers, have a right to express its opinion in these matters before legislation is enacted and rules and regulations adopted by some bureau? I do not share the opinion that the time for the medical profession to speak up is after such things have taken place. Neither do I have the opinion that Congress would be resentful of intelligent, courageous and fair advice on such matters. What better proof can be asked than the quotation from Justice Miller's opinion that the court is not responsible for the absence of advice from the medical profession when Congress is drafting a law.

The functions of acquainting the public on matters of medical interest, assisting bureaus in formulating plans on medical care and offering constructive advice on proposed medical legislation rightfully belong to the national organization known as the American Medical Association. They could be assigned to the National Physicians' Committee, or they might even be undertaken by unifying the activities of the various state committees on public policy and legislation. Representative committees could be appointed for each of the component societies, county, state and national. These could all be so integrated that national opinion and advice could be obtained and made available for committee hearings on legislation within a few hours' time. Through the national, state, and county committees the entire profession could be informed of proposed medical legislation. Thus, the local constituents of the respective state and federal legislators have medical advisory committees from each county. They also have state medical committees on public policy with a physician as part-time executive chairman assisted by legal counsel. A national committee constructed on the same plan as these state committees would have to be created. A physician who has practiced medicine should be chosen as the executive chairman. Both he and his legal counsel would need to be stationed in our national capital. The expense of the national committee on public policy could be financed by one of three agencies, the American Medical Association, the National Physicians' Committee, or the respective state organizations bearing the expense jointly. It would appear more equitable if each physician would be assessed each year for the specific purpose of maintaining a national committee on public policy and legislation.

Our problems are not unlike those of dentists and hospital associations. Therefore, unified effort of medical, dental and hospital associations should further the welfare of the patient.

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E. M. Holder, M.D.
C. M. Speck, M.D.
F. M. Acree, M.D.
C. R. Crutchfield, M.D.
H. King Wade, M.D.
Dewell Gann, Jr., M.D.

EDITORS:

Lawrence W. Long, M.D.
J. G. Archer, M.D.
Stanley A. Hill, M.D.

Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Our state meeting this year is to hold its annual session as usual with just a few modifications. The business sessions will be held on Wednesday night instead of the public meeting. The public night, which had such an auspicious beginning, should have shared in the president's night even with the streamlining of the program, we believe. By leaving off some of the entertainment there would have been time for it, and it seems a poignant necessity at this time to preserve and encourage as firm a lay-professional faith as possible. We believe the meeting will be well attended and that those who go will be benefited.

There has been a tendency for some time in our medical meetings, however, to add too much on the outside and spend too much for non-essentials. The county, state, and national meetings should be geared for handling the secular as well as the scientific problems of medicine. We should place these meetings first and attend them if at all possible. This year, if it is not possible for all the men from a community to attend the state meeting, then a part should go and report back to the rest. Indeed, this is an excellent plan for all medical meetings. It involves coöperative medicine which is a bit inapt to the average doctor, but the time is not far when we must coöperate or be dismembered, one by one. The challenge to medicine is too big and the opportunities too great for littleness to have a place in the health order.

Let us not fail the coming state meeting. Dr. Lowry Rush will handle the meeting in fine style. Dr. LeRoy Wilkins will be there to take the gavel and carry on through the coming year. It is hoped that every county in the state will be well represented at the state meeting at Jackson.

You will be interested in reading the abstract of Dr. Alfred W. Adson's paper read before the meeting of the National Conference on Medical Service, February 14, 1943. He says some things worthy of your deep consideration. It is certain that the time has come when the public must have complete medical coverage. Medical service must also be more definitely related to general education, to religion, to human economics and sociology and all other important human affairs. "Where the people lack vision they perish." The medical profession must project its vision into the avenues of human affairs and set as its ideal the building of physical, mental and moral assets which are the basis of a citizenship which will meet successfully the emergencies of life. If the medical profession of this country is to live its democratic way it must be determined and it must outline plans to give the people complete medical coverage.

You will note a list of our exhibitors, both scientific and commercial. We should deeply appreciate both groups. Scientific exhibits constitute one of our very best plans of teaching. Our state is now taking must interest in them. This is a good sign, indicating medical progress. We should appreciate our commercial exhibitors. The ethical commercial houses have the same high ideals as does the medical profession and we should work hand in hand with them. They help the medical profession to make progress. They are anxious to render service as well as to maintain a business. We are really brothers in the same noble cause. We extend them a cordial hand, in appreciation of their coming this year.

You will read with interest the list of our doctors in the service. We thank Dr. Underwood for this. We want to keep up with them and be able to report more about them in the journal. At our state meeting they will be thinking of us and we shall be thinking of them. We appreciate them, our heart, our prayer and our spirit are with them.

It has been said that World War I took doctors and made specialists out of them, but World War II is taking specialists and making doctors of them. If this does happen it will be a step forward. Specialists are positively essential, of course, but the profession has been specialized to a point of weakness in this time of doctor shortage.

The Prentiss County Medical Society by unanimous vote has requested the officers of the Mid-South Postgraduate Medical Assembly, which pretermitted its fifty-eighth annual session in Memphis, to resume its meetings next February. This is well worth consideration. The doctors of this section have become accustomed to this graduate course, all in four days, and it has been most beneficial. They are loath to give it up, feeling the need of this review of medicine and surgery each year. Indeed it does seem a poor time to ration medical information, or to hinder its free flow to the doctors and the people. It is a good time to leave off cocktail hours and fine-spun theories in medicine, but not to quit holding medical meetings. The indications are that the Postgraduate Assembly at New Orleans this year was a big success. No doubt the Mid-South at Memphis would have been successful had it been held. Memphis is the coming city of the mid-South area. It has been growing in recent years as a medical center. While this section rushes forward in industry and many other ways, it does not seem consistent to freeze one of its greatest medical assets, the Mid-South Medical Assembly. The organization needs streamlining and bringing up to date—it could have stood this for the last few years—but the meeting for next year should be seriously considered at once, in our opinion.

You will appreciate the paper by Dr. Fred Hodges of Ann Arbor, Michigan. He is one of the really big medical men of this country. We hope that we may be favored with another paper from him sometime soon.

We have had renewals to the journal not only from the mid-South area, but from several other states within recent weeks. We are very grateful to our faithful friends.

We are grateful to the Borden Company for using our pages. We feel partial a bit to it since it had its beginning in our state.

Thanks to Joe McMillin, a Mississippi boy, for his ad for the Mutual Life Insurance Company of New York in this issue of the journal. He has a big vision in life. He loves to serve.

One of the tallest, sturdiest oaks in the medical forest has fallen. An almost irreparable loss was sustained by Southern medicine when Doctor J. L. McElroy died. He was a great physician. He was too young to die, only seventy-six years old, but he had accomplished much more than is given to most men. He was in the fullest sense a student, a clear, calm thinker as well as a persistent worker, and a scholar deeply and broadly educated. He had been aptly dubbed the "Osler of the South." He possessed a brilliant mind and, fortunately, his academic education and fundamental training were good. Dr. McElroy very wisely began the practice of medicine in the country, on a large cotton plantation. Closely observant and conscientious, as he was throughout his entire life, he probably profited more by this experience than by any hospital training he ever had. He was a great diagnostician, an indispensable prerequisite of one who attains the status of a great physician. Not only a great student, scholar, diagnostician and physician, he was preëminently a great teacher. He was a great teacher because he possesses the tact and ability to convey his knowledge to others. When I was a member of the licensing board of the state of Mississippi, we soon found that the boys who had taken pathology under him were the best grounded pathologists in any class that came up for examination before our board. Dr. McElroy was a splendid citizen, a courteous gentleman and dependable friend. He was my personal friend, of which I am duly proud and profoundly grateful. He is gone from our midst; let us strive to emulate him.

The wheels of time turn constantly and speedily. Another associational year is nearly spent. Within a few days we shall meet again. This time the meeting place is Jackson. Only two full days will be given to the presentation of the program, but it will be good and profitable even though it will be condensed and abbreviated. Among the possible changes that lie before us is some radical change in our monetary system. With this will come decided social and educational change. Accompanying these there will inevitably come change in our medical practices, or the distribution of medical service. To us dictatorship is repulsive, but even in our form of democracy all governmental power is delegated. So after all we may find some degree of rationing or regimentation of medical service necessary in the end. We can only wait and see. Still we hope there may be found sufficient medical statesmanship to preserve in a great measure our independent distribution of medical service. But unless we are faithful to ourselves and to our organizations and stay on the alert, we shall lose our medical independence. Never was it more true that "eternal vigilance is the price of liberty." Let us meet in Jackson.

G. S. B.

The magazine *Science* had an article on a new sulfa drug for dysentery. The postal censors erased it because they thought the information would be useful to enemies in the tropics. It has been suggested that professional men are better judges of such matters than postal employees, however earnest they may be in their premises. —L. L. M.

FROM THE PRESIDENT

During the past year there has been some agitation to dispense with the 1942-43 annual session of the Association due to the difficulty of travel and the terrible strain, both physical and mental, which the doctors of the state are suffering because of the shortage of physicians in practically all communities. I have felt, however, that it would be a mistake to abandon meetings of the Association as I feel that we need to get together now more than ever before, for the dissemination of scientific information and for the discussion of problems that are arising every day.

At our last year's session, the scientific program was completed at the conclusion of the second afternoon leaving only the business session, including the election of officers, to be held the third day. By holding this final third day session the evening of the second day the meeting could be confined to two full days with the following beneficial results: 1) Those in attendance will not be away from home long during these busy times. 2) It is calculated that a larger attendance will be on hand for the important final business session.

After consulting the members of the Council, the majority of the officers of the Association, and a number of interested physicians over the state, all of whom indicated their approval, it was decided to dispense with the third day of the meeting and confine the session to two full days, namely: Tuesday and Wednesday, May 11 and 12, 1943. I trust that arrangement will meet with your approval and that you will make an effort to attend the meeting and remain for both days.

Much work has been done preparing for the meeting, both by the chairmen of the sections and the local committee on arrangements of the Central Medical Society. I am sure you will be well repaid if you can manage to attend this meeting.

Due to the war emergency with difficulty of travel and increasing work and responsibility, I have deemed it impracticable to attempt to visit the various component societies during this year as much as I would like to have done.

Assuring you of my deep appreciation for the splendid coöperation which I have received, I am

Gratefully yours,
H. Lowry Rush

DR. H. LOWRY RUSH

President, Mississippi State Medical Association
Meridian, Mississippi

Dr. Rush was born in Meridian. His medical preparation included the B. S. degree from the University of Mississippi and M. D. from the University of Pennsylvania, followed by postgraduate study in Europe, where he visited surgical clinics for two months in 1925. For several years Dr. Rush and his brother, Dr. Leslie Rush, have owned and operated Rush's Infirmary, a seventy-bed institution approved by the American College of Surgeons and the American Hospital Association.

Awake to the strides made by organized medicine, Dr. Rush has identified himself with hospital and medical groups in an active way. He was vice-president of the Southeastern Hospital Association and president of the Mississippi State Hospital Association in 1938-39; councilor from the sixth district in the Mississippi State Medical Association from 1935 to 1941. He is a fellow of the American College of Surgeons, the Southern Surgical Congress, and a member of the A.M.A., Southern Medical Association, Association of Industrial Physicians and Surgeons and the American Association of Railway Surgeons. He is a Methodist and a Mason, enjoys golf and pipe organ practice for recreation. He is surgeon for both the Illinois Central and the Gulf, Mobile and Ohio railroads.

E. LEROY WILKINS
President-elect, Mississippi State
Medical Association
Clarksdale, Miss.

Program

EVENING SESSION—EIGHT O'CLOCK

Tuesday, May 11, 1943
Victory Room, Heidelberg Hotel
The Public Is Cordially Invited

Invocation—Rev. Claud B. Bowen, Jackson.

Address of Welcome:

On Behalf of the City of Jackson—Mayor W. A. Scott.

On Behalf of the Central Medical Society—H. C. Ricks, Jackson.

Response to Addresses of Welcome—President-elect E. LeRoy Wilkins, Clarksdale.

In Memoriam—by the Secretary.

President's Address—Today's Challenge to Medicine. H. Lowry Rush, Meridian.

Ewing Fox Howard Oration—Prevention of the Loss of Teeth—C. C. Eass, New Orleans, La.

GENERAL MEETING—FIRST DAY

Tuesday, May 11, 1943
Session 1:30 to 6:00 P. M.
Victory Room—Heidelberg Hotel

OPENING EXERCISES

Call to Order—H. Lowry Rush, Meridian.

Invocation—Rev. R. Girard Lowe, Jackson.

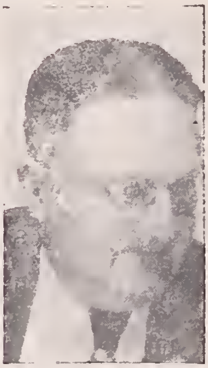
HOUSE OF DELEGATES

Wednesday, May 12, 1943
Eight P. M.
Victory Room, Heidelberg Hotel

The following essayists will address the seventy-sixth annual session of the Mississippi State Medical Association. Make your plans to hear as many of these men as possible.

Section on Eye, Ear, Nose and Throat

DR. ROSS E. ANDERSON, Chairman
JACKSON, MISS



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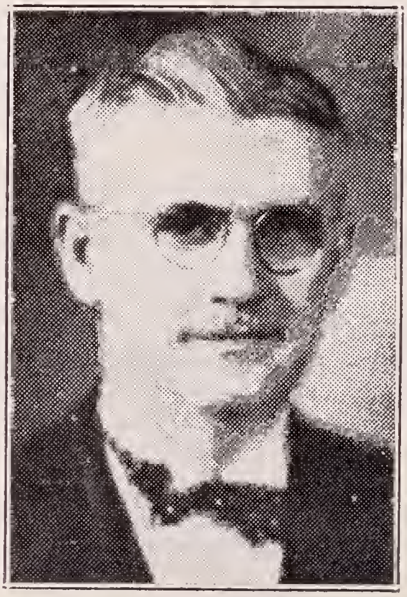
Subject: "Complications Following Removal of Impacted Wisdom Teeth As Seen and Treated by the Otolaryngologist."

Discussion of dental aspects with lantern slides, by Dr. Walton Shannon.

DR. JOHN J. SHEA
MEMPHIS, TENN.



Subject: "Fungus Problems of the Ear, Nose and Throat.

DR. WILLIAM B. CLARK
NEW ORLEANS, LA.

Subject: "Glaucoma."

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DR. EDLEY H. JONES
VICKSBURG, MISS.

Subject: "Allergic Problems in Otolaryngology."

Discussion opened by Drs. D. C. Montgomery and Robin Harris.

DR. E. W. GREEN
HATTIESBURG, MISS.

Subject: "The Present Status of Sulfonamides in Ophthalmology."

Discussion opened by Drs. H. L. Arnold and D. W. Hamrick.

DR. WILLIS F. COTTEN
McCOMB, MISS.

Subject: "Maxillary Sinusitis."

Discussion opened by Drs. Lauch Hughes and C. A. McWilliams.

Section on Medicine

DR. BRAXTON B. O'MARA, Chairman
Biloxi, Miss.

DR. E. E. BENOIST
Natchez, Miss.

Subject: "Cardiospasm."

Discussion by Drs. D. G. Rafferty and R. H. Clark.

DR. C. C. HIGHTOWER
Hattiesburg, Miss.

Subject: "Medical and Surgical Management of Goiter."

Discussion by Drs. G. W. F. Rembert and W. H. Anderson.

DR. A. W. WALLACE, Lieut. Col., U. S. M. C.
Kesler Field, Biloxi

DR. PAUL MEDELMAN, Major, U. S. M. C.
Kesler Field, Biloxi

Subject: "Common Respiratory Diseases. Clinical and Roentgenological Studies.

DR. JOHN LUCAS
Greenwood, Miss.

Subject: "Caudal Anesthesia in Obstetrics."

Discussion by Drs. Carter O'Ferrel and J. P. Culpepper.

DR. EDGAR BURNS
New Orleans, La.

Subject: Recent Advances in Treatment of Carcinoma of the Prostate."

DR. J. S. HARTER
Sanatorium, Miss.

Subject: "X-Ray Interpretation of the Chest."

Discussion by Drs. L. B. Neal and W. R. Bethea.

DR. CARL PETERSON
Chicago, Ill.

Subject: "Industrial Medicine and the General Practitioner."

Section on Surgery

DR. GILRUTH DARRINGTON, Chairman
Yazoo City, Miss.

DR. TOXEY E. HALL
Belzoni, Miss.

Subject: "Subdural Hematoma."

Discussion opened by Dr. Paul Gamble.

COL. LAWRENCE W. LONG, M. C.
Jackson, Miss.

Subject: "Surgery, the Queen of Arts, Has Gone to War."

DR. WILLARD H. PARSONS
VICKSBURG, MISS.

Subject: "Certain Clinical Aspects of Acute Shock."

Discussion opened by Drs. J. W. Barksdale and Edwin Benoist.

DR. TEMPLE AINSWORTH 1903-
JACKSON, MISS.

Subject: "Some Renal Complications from Sulfonamide Therapy."

Discussion opened by Drs. H. R. Shands and Julius Bailey.

DR. JOHN B. HOWELL
CANTON, MISS.

Subject: "Fractured Pelvis."

Discussion opened by Drs. Tom Blake and J. A. K. Birchett.

Section on Hygiene and Public Health

DR. N. C. KNIGHT, Chairman
MERIDIAN, MISS.

DR. FELIX J. UNDERWOOD
JACKSON, MISS.

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Subject: "Public Health in Mississippi under Wartime Conditions."

Discussion by Drs. J. A. Milne and B. D. Blackwelder.

DR. C. C. PIERCE
NEW YORK, MISS.

Subject: "Conception Control: A Public Health Responsibility.

DR. J. W. DAVENPORT, JR.
NEW ORLEANS, LA.

Subject: Human Blood Plasma: A Review of Its Preparation and Clinical Indications for Its Use.

DR. K. O. STINGILY
MERIDIAN, MISS.

Subject: "Cancer Control."

Discussion by Drs. John C. Henthorne and J. C. Culley.

News and Comments

Michael Reese Hospital, Cardiovascular Department, offers a full-time intensive course in electrocardiography for two weeks, August 16 to August 28, 1943, by Dr. Louis N. Katz.

The fee for the course is $100.00. Reservations may be made upon receipt of $10.00 which will be applied on the tuition. An hourly program of the course will be sent on request.

For further information address: Michael Reese Hospital, Cardiovascular Department, 29th and Ellis Ave., Chicago, Illinois.

ANNOUNCEMENT

Drs. Gamble Brothers and Archer Clinic, Greenville, Mississippi, announce the following new members to their staff:

Dr. Lyne S. Gamble, in charge of ophthalmology, otolaryngology and bronchoscopy.

Dr. Maurice St. Martin, an associate in internal medicine.

Dr. John F. Hines, obstetrics and gynecology.

Dr. Carl F. Baumeister, associate in surgery.

THIRTY APPLICANTS APPROVED FOR MEDICAL SCHOOL

Thirty applicants for the freshman class of the School of Medicine at the University of Mississippi have been accepted for entrance in September, according to an announcement made by Dean B. S. Guyton.

Now operating on an all-year schedule, the medical school graduates 30 students with medical certificates for the two-year course every nine months, Dean Guyton said. After a month of practical work in the Mississippi State Sanatorium, students will go to other medical schools to complete their training.

Applicants named are Anna Bess Barwick of Braxton, Hugh Miller Batson, Jr., of Hattiesburg, Frank M. Blackwell of New Albany, James Henson Clark of DeKalb, Hugh Crowell of Itta Bena, John Oscar Dampeer of Summit, Henry Burkett Dearman of New Augusta, William Watson Dreher of Gloster, William Norris Golden of Hattiesburg, Walter Robert Holliday of Meridian.

Everett Herring, Jr., of Louisville, Charles Mangin of Biloxi, Brewster Clay Robinson of Jackson, Thomas W. Talkington of Sumrall, Edwin Topp, Jr., of Tupelo, William Martin Wood of Banner, Earl Lewis Wrenn of Doddsville, John Longist of Gulfport, Robert Woodson Emmons of Meridian, Chesley Hester Hill of Amory, John Clifton Lucas of Kosciusko, Edward Pennington of Preston, Sam Avery Scott of Jackson, James Theodore Stukenschneider of Columbus, Jack Victor King of Jackson.

C. B. Bouchillon, III, of Houston, Frazier Earl Fyke of Jackson, Charles Norris Hickman of Indianola, Thomas Herron Mitchell of Starkville, William Lewis Thornton of Meridian and Maurice Francis Herring, Jr., of Utica.

ALUMNI MEETING AT STATE MEDICAL MEETING

The uncertain and trying times in which we are living, are greater and more uncertain for the future of the medical profession and medical schools. The alumni committee appointed for the state meeting believes that this is an opportune time for the alumni of each school to get together for a general session and dinner.

The committee is considering a joint alumni meeting with a dinner to be held Tuesday night between the hours of 6:00 and 8:00 P. M. At this meeting, tables will be arranged for each alumni group. At the general registration table will be a place to register for each group.

It is believed such a meeting will bring the fellows closer together, renew old experiences and acquaintances, and provide a general good time. It is a first attempt in the state. Let's make it a success.

It is suggested that every doctor write or send a card stating his desire to attend his alumni meeting, addressing the card to Dr. O. A. Schmid, Chairman Alumni Committee, Whitfield, Mississippi.

DIED FOR HIS COUNTRY

Dr. and Mrs. B. C. Tubb of Smithville, Monroe County, Miss., have received the Purple Heart awarded posthumously to their son, Lieut. Douglas B. Tubb of the Air Forces, who was killed February 22, 1942, off the coast of Bali during the Battle of Java.

Lieutenant Tubb volunteered after receiving his degree from the University of Mississippi and had been in service more than a year.

MISSISSIPPI PHYSICIANS IN ATTENDANCE ON THE COURSE IN OBSTETRICS AND GYNECOLOGY, TULANE UNIVERSITY OF LOUISIANA

April 19-23, 1943

The following list now taking the course in Tulane shows that this school is very popular and that the doctors of the country are vitally and deeply interested in knowing the latest in medicine. The State Board of Health, Tulane, and the Commonwealth Foundation have done a fine work in furnishing scholarships to our doctors in Mississippi.

Arrington, Geo. Lamar
Meridian, Miss.
Austin, Richard Baker, III
Forest, Miss.
Aycock, William Jasper
Calhoun City, Miss.
Brennecke, Frances Elizabeth
Jackson, Miss.
Brown, L. S.
Water Valley, Miss.
Carr, Oliver F.
Clarksdale, Miss.
Carruth, Roy W.
Tupelo, Miss.
Christian, Robert H.
Baldwyn, Miss.
Crocker, Ottie B.
Bruce, Miss.
Curry, William H.
Eupora, Miss.
Darrington, Gilruth
Yazoo City, Miss.
Donaldson, Joel S.
Oakland, Miss.
Eason, William H.
Tupelo, Miss.
Eldredge, H. A.
Bay St. Louis, Miss.
Ellis, Jno. E.
West Point, Miss.
Fowler, Robert Lee
Marion, Miss.
Gillespie, George Y.
Greenwood, Miss.
Grant, Roy G.
Holly Springs, Miss.
Hall, Toxey Ellis
Belzoni, Miss.
Hall, Wesley W.
Shelby, Miss.
Harper, B. B.
Itta Bena, Miss.
Hays, Hardie R.
Jackson, Miss.
Head, R. G.
Mendenhall, Miss.
Horn, J. W.
Lucedale, Miss.
Ingram, C. H.
Pickens, Miss.
Johnson, J. Rufus
Jackson, Miss.
McDougal, Luther L.
Booneville, Miss.
Mead, J. A.
Hattiesburg, Miss.
Messina, A. J.
Vicksburg, Miss.
Montgomery, M. L.
Louisville, Miss.
Morz, Matthew A.
Columbus, Miss.
Otken, L. B.
Greenwood, Miss.
Price, R. B.
Jackson, Miss.
Puryear, Harry H.
Carthage, Miss.
Rouse, L. C.
Gulfport, Miss.
Ruff, Clyde
Tomnolen, Miss.
Russell, G. C.
Jackson, Miss.
Slaughter, W. S.
Jonestown, Miss.
WATKINS, C. A.
West Point

Watson, W. H.
Brandon, Miss.
Williams, Laura O.
Meridian, Miss.
Wyatt, R. L.
Calhoun City, Miss.
Yates, R. B.
Greenwood, Miss.

Doctors in the Service

THE FOLLOWING PRIVATE PHYSICIANS HAVE GONE INTO SERVICE

NAME	ADDRESS PRIOR TO ENTERING SERVICE
Acree, Frank M.	Greenville
Andersen, G. C.	Biloxi
Anderson, W. D.	Columbus
Applewhite, A. H.	Columbia
Armstrong, J. H.	Oxford
Atkinson, J. A.	Brookhaven
Atkinson, R. H.	Water Valley
Baines, T. A.	Jackson
Barkley, T. J.	Isola
Barron, S. H.	Columbia
Beall, L. L.	Cleveland
Beck, O. H.	Greenville
Berman, M. D.	Jackson
Berry, C. T.	Greenville
Biggs, W. O.	Osyka
Biles, G. L.	Sumner
Blaine, J. G.	Jackson
Bolton, E. L.	Biloxi
Brackstone, L. B.	Iuka
Bramlett, E. V.	Oxford
Bright, I. B.	Greenwood
Brown, A. E.	Columbus
Brumfield, R. H.	McComb
Buckingham, D. A. (Col.)	Meridian
Burdine, I. P., Jr.	Amory
Burgoyne, Bert R.	Laurel
Burt, L. W.	Laurel
Bush, E. A.	Laurel
Butler, Frank L., Jr.	McComb
Butler, G. H.	Liberty
Campbell, G. A.	West Point
Canizaro, Vito J.	Vicksburg
Carl, L. T.	Jackson
Casey, W. D.	Walls
Cave, W. H.	Greenville
Chambers, W. L.	Pickens
Chunn, C. F.	Vicksburg
Chustz, J. A.	Jackson
Clark, R. L., Jr.	Jackson
Coe, J. E.	Leland
Cohen, Emanuel	Pace
Cook, W. H.	Gulfport
Crawford, W. W.	Tylertown
Criss, R. J., Jr.	Coffeeville
Curry, H. K.	Eupora
Dabbs, R. T.	Aberdeen
Dabney, W. M.	Okolona
Dale, S. C.	Jackson
Davis, J. T.	Corinth
Dees, J. G.	Jackson
Denman, W. E., Jr.	Greenwood
Dent, J. H.	Vicksburg
Derrick, A. A., Jr.	Jackson
Dickson, N. S.	Aberdeen
Donald, R. L.	Meridian
Dorris, Henry Clay	Winona
Dorsey, C. F.	Brookhaven
Eddleman, T. S.	Jackson
Edmondson, H. E.	Edwards
Edmondson, J. S.	Vardaman
Edwards, Boyd C.	Jackson
Ellison, E. T.	Greenville
Eubanks, G. W.	Greenville
Ewing, M. Q.	Amory
Faulkner, Roscoe	Batesville
Feemster, L. C., Jr.	Tupelo
Ferris, L. M.	Vicksburg
Flynt, R. M.	Meridian
Fox, J. H.	Jackson
Freedman, H. D.	Senatobia
Fridge, H. G.	Laurel
Garrison, H. F., Jr.	Jackson
Geisenberger, Fred	Natchez
Goldfarb, P. M.	Vicksburg
Goodman, H. B.	Anguilla
Green, J. C.	Tupelo
Hall, D. S.	Vicksburg
Hall, J. L.	Vicksburg
Hall, R. W., Jr.	Jackson
Hand, B. F.	Greenville
Hand, W. F.	Jackson
Harrell, F. J., Jr.	Biloxi
Hasie, J. L.	Electric Mills
Heninger, B. R.	Pass Christian
Hicks, G. S.	Natchez
Hicks, G. Y.	Vicksburg
Hightower, J. R.	Itta Bena
Hines, M. O.	Tylertown
Holley, R. L., Jr.	Oxford
Hollowell, F. D., Jr.	Jackson
Holmes, V. S.	McComb
House, N. C.	Belzoni
Howard, H. L.	Winona
Howell, J. B., Jr.	Canton
Hudson, L. B.	Hattiesburg
Hudson, R. P.	Utica

Hull, J. A.	Indianola
Hull, W. A.	Indianola
Hurt, A. D.	Corinth
Hutchins, J. D.	Crystal Springs
Jackson, G. W.	Sardis
Jackson, Paul	Liberty
Jenkins, C. R.	Ellisville
Jenkins, W. N.	Port Gibson
Johnson, C. C.	Greenville
Johnston, W. E.	Vicksburg
Jones, I. H.	Meridian
Jones, W. C.	Indianola
Kazar, J. J.	Tchula
Kendall, N. F.	Jackson
Kety, S. S.	Picayune
Kirk, R. D., Jr.	Tupelo
Klaus, A. W.	Greenville
Lacey, C. F.	Thomastown
Laird, E. L.	Union
Lamb, R. D.	Columbus
Lavender, J. R.	Columbus
Lee, A. R.	Tylertown
Leigh, J. H.	Philadelphia
Levy, J. L.	Clarksdale
Lewis, C. J.	Meridian
Lewis, N. B.	Vicksburg
Lilienthal, A. A.	Sanatorium
Lipscomb, Lee M.	Jackson
Long, L. W.	Jackson
Lotterhos, W. E.	Jackson
Mabry, E. H.	Greenville
Magee, L. M.	Natchez
Markette, J. R.	Brookhaven
Massengill, F. C.	Brookhaven
Massengill, R. C.	Brookhaven
Melvin, E. A.	Gulfport
Meriwether, L. S.	Jackson
Merriam, L. B.	Waynesboro
Minter, D. R.	Rochdale
Mitchell, C. B.	State College
Moore, D. H.	Meridian
Moorhead, R. J.	Yazoo City
Morrison, M. E.	Oxford
Mounger, S. G.	Yazoo City
Murfee, J. A.	Amory
Myers, O. P.	Indianola
McCarthy, A. M.	Electric Mills
McClanahan, H. H.	Columbus
McDill, J. E.	Jackson
McDonough, J. F.	Pascagoula
McKinnon, J. G.	Hattiesburg
McNair, S. S.	Jackson
McPhail, G. T.	Slate Springs
McRae, M. E.	Laurel
Nobles, W. W.	Tunica
Noblin, W. E., Jr.	Jackson
Peeler, J. G.	Shaw
Pender, J. W.	Kosciusko
Pennebaker, D. M.	New Albany
Peterson, R. J.	Schlater
Pittman, W. C.	Bay St. Louis
Pritchard, C. D.	Lambert
Purser, Thomas, Jr.	McComb
Ramsay, F. L.	Laurel
Ramsay, T. R.	Laurel
Ray, R. B.	Kosciusko
Rehfeldt, F. C.	Jackson
Reynolds, E. D.	Clinton
Ringold, O. E.	Cleveland
Robbins, E. P.	Brookhaven
Robbins, S. G.	Vicksburg
Ross, T. E.	Hattiesburg
Rouse, H. K., Jr.	Gulfport
Rush, G. A., Jr.	Meridian
Sandifer, F. M., Jr.	Greenwood
Saunders, J. H.	Laurel
Scales, H. L., Jr.	Starkville
Sheely, E. E.	Jackson
Sheely, W. P.	Gulfport
Simmons, W. H., Jr.	Jackson
Simpson, R. K.	Macon
Slaughter, W. J.	DeKalb
Smith, R. W.	Canton
Smoot, J. L.	Pascagoula
Sneed, Ralph	Jackson
Snelling, M. M.	Gulfport
Stallworth, W. L.	Columbus
Stephenson, R. T.	Jackson
Stowers, W. K.	Natchez
Street, R. A., Jr.	Vicksburg
Terrell, K. D.	Tupelo
Thompson, C. C., Jr.	Columbia
Thorne, E. A.	Holly Springs
Van Landingham, D. J.	West Point
Verner, G. C.	Jackson
Vincent, R. P.	Yazoo City
Wadlington, J. E.	Florence
Wadsworth, H. M.	Hernando
Ward, C. E.	Jackson
Warfield, W. P., Jr.	Clarksdale
Warriner, R. B., Jr.	Corinth
Watkins, W. W.	Aberdeen
Weatherford, W. J.	Pascagoula
Westerfield, J. A.	Merigold
Whittington, H. A.	Natchez
Willey, L. W.	Whitfield
Williams, H. M.	Aberdeen
Williams, H. S., Jr.	Jackson
Williams, J. W.	Greenville
Williams, T. R.	Batesville
Wilson, D. T.	Meridian
Wilson, T. E., Jr.	Jackson

Windham, Hal	Columbia
Wright, L. D.	Jackson

THE FOLLOWING PUBLIC HEALTH PHYSICIANS HAVE GONE INTO SERVICE

Adam, A. L.	Natchez
Armstrong, W. R.	Iuka
Beaver, W. C.	Brandon
Davis, F. M.	Jackson
DeJarnette, R. H.	Corinth
Gibbons, G. E.	Macon
Gillespie, C. R.	Jackson
Goodman, Rex	Cleveland
Hedmeg, Andrew	Indianola
Jones, R. J.	Greenwood
McCalip, H. L.	Yazoo City
McGuire, J. C.	Hazlehurst
Nadeau, A. T., Jr.	Pascagoula
Neukom, G. B.	Batesville
Nicholas, A. J.	Port Gibson
Price, J. H.	Iuka
Ryan, E. W.	Gulfport
Sims, M. M.	Oxford
West, E. H.	Lucedale
Wilson, J. K.	Greenwood
Young, J. G.	Holly Springs

Deaths

Dr. A. J. Newman, 63, a native of Amite County, died in a New Orleans hospital March 27, and was buried in Hammond, La., where he had practiced for twenty-two years. He was city health officer of Hammond and a past president of the Florida Parishes Medical Society.

Dr. Newman was graduated from the Memphis Hospital and Medical College, now the University of Tennessee, and did postgraduate work at Tulane University. He was a member of the American Medical Association, the Masonic Lodge, the Order of Eastern Star and the Woodmen of the World, and was an active worker in the Baptist church.

Dr. Hiram Bruister Gilmer, 50, of Hickory, Miss., a physician practicing in east Mississippi and west Alabama, was killed instantly March 28 when his automobile plunged off a 12-foot embankment near Meridian.

Dr. Gilmer served in the army medical corps in the first World War. He was a graduate of the University of Tennessee, Howard College, Tulane University and the University of Minnesota.

Dr. Gilmer practiced at Toomsuba, Miss., Geiger, Ala., Birmingham and St. Louis before moving to Hickory eight years ago.

Dr. J. R. Whittington passed away at his home in Gloster, March 1.

Dr. Whittington was said to be one of the oldest, if not the oldest doctor in the state of Mississippi. He was 94 years of age.

Besides his daughter, Mrs. Merril Menby of Vicksburg, Dr. Whittington is survived by another daughter, Mrs. W. L. Bibb of Gloster, a son of E. O. Whittington of Gloster, a sister, Mrs. Birney M. Imes of Columbus, Miss., a brother, Walter Whittington of Gloster, and several nephews among whom are Congressman William M. Whittington of Greenwood and Washington, D.C., and state senator Luther Whittington of Natchez.

Services for Dr. Charles M. Anderson, retired physician of Jonestown, were held from the Jonestown Methodist Church on March 16.

Dr. Anderson died at the Baptist Hospital in Memphis after a long illness.

Dr. Anderson was born at Love Station, Miss., on March 28, 1882. He moved to Jonestown about 40 years ago and practiced medicine in that community until he retired some time ago because of ill health. He was engaged in farming at Jonestown at one time, and later resumed his professional work as a physician.

Dr. Benjamin Strong, 79, died at his home near Holly Springs, March 16, after an illness of about two weeks.

Services were conducted at Lamar Methodist Church and the body was taken to Aberdeen for burial.

Dr. Strong was the son of the late Benjamin Strong and Catherine Burnette Strong of Aberdeen. He was educated at the Kentucky Military Academy and the University of Kentucky and received his medical degree at the University of Pennsylvania in 1891.

He practiced medicine in Bowie, Texas, and Chester, Miss., before he came to Lamar, and had practiced there 20 years.

He was a member of the Methodist church.

Surviving are his wife, Mrs. Mamie McWhorter Strong.

Book Reviews

THE MARCH OF MEDICINE, Volume VII, New York Academy of Medicine Lectures to the Laity, 1942, with introduction by Herbert B. Wilcox, M.D. 217 pages, 14 charts and figures. Published by Columbia University Press, New York, 1943. Price $2.50.

Seventh and latest in the series of "Lectures to the Laity," the New York Academy of Medicine's *March of Medicine* contains discussions of interest and significance to both the physician and the man in the street. Informative as well as timely, this book contains brief sketches of the history and modern analysis of six phases of physical, mental, and emotional health.

Beginning with Dr. James Alexander Miller's lecture on "Tuberculosis: the Known and the Unknown," the book continues with discussions on "The Brain and the Mind" (Dr. Tracy Jackson Putnam), "The Freudian Epoch" (Dr. A. A. Brill), "Genius, Giftedness, and Growth" (Dr. Arnold Gesell), "The History of the B-Vitamins" (Dr. Norman Jolliffe), and "The Newer Knowledge of Nutrition" (Dr. A. J. Carlson). Each chapter introduces its own subject, and proceeds to explain and clarify prevalent conceptions, pointing out both facts and fallacies.

The March of Medicine is not so technical for the layman, and at the same time it holds the attention of the alert physician.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

"A STUDY OF PREMATURE MORTALITY"—Leo Flax, Edward L. Levert, and Robert A. Strong—Journal of Pediatrics, 21:717 (December) 1942.

The author states that since 1937 there has been a decided lowering of the premature mortality in the Charity Hospital of Louisiana, at New Orleans, which is believed to be due to several definite factors.

It is said that in 1937 there were 157 premature births in Charity Hospital. Of these, 134 died and 23 left the hospital alive. The total mortality rate for the year was 85.3 per cent. During 1938 there were 159 deaths out of 216 prematures born alive, the total mortality rate for the year being 73.6 per cent. This year saw the beginning of segregation of premature infants from the general nursery infants. This was carried out, however, in the same nursery, premature infants being screened off in one corner of the room. Three residents were added to the pediatric staff during 1938.

It is reported that in 1939 the total premature mortality rate decreased to 59.7 per cent, representing 127 deaths out of a total of 211 infants born alive. In this year graduate nurses were assigned to the care of the premature infants as a group. In addition, all premature infants weighing less than 3 pounds at birth were put on breast milk for varying lengths of time. Oxygen was used as a routine measure during the first 24 hours of life and as indicated thereafter. A closer coöperation between the obstetric and pediatric departments came into being at about this time, and all infants, including the premature ones who required resuscitation, were seen within the first few minutes of life by the resident pediatrician.

"The mortality rate for the year 1940 was 42.2 per cent, a total of 116 deaths out of 275 live births, the nursery was moved into the new building of Charity Hospital, where small adjoining rooms were set aside for the premature babies. These rooms were equipped with running water and a refrigerator. A small isolation room, which was used for both premature and older infants, was available. A graduate nurse, who had done postgraduate work on premature infants, was placed in charge of the nursing care of this section and additional nurses and personnel were added. Enough additional bassinets were obtained to insure an individual one for each infant."

The author says that in the present series of 498 deaths among premature infants, the most important single cause of death was atelectasis. Failure of the lungs to expand properly and to function was responsible for 24.2 per cent of all deaths. Atelectasis assumes double importance as a cause of death in all premature infants weighing less than 1,500 gm.

Prematurity alone was found to account for 22 per cent of the deaths in this series.

It is stated that bronchopneumonia was responsible for 15 per cent of all deaths. Other acute respiratory infections and otitis media raise the total to 18.6 per cent. In this series, therefore, approximately one death in five was due to an upper respiratory infection. "As a cause of death in premature infants above the weight of 1,500 gm., it leads all other factors. This can be expected from one point of view; that is, infants above this weight usually lived a long enough period of time to become exposed to some infection.

Diarrhea was the fourth main cause of death, accounting for 12.4 per cent of all death.

It is said that the striking thing about an appraisal of the causes of death in prematures is that for the most part these are preventable deaths. Atelectasis has long been the nemesis of the pediatrician and the obstetrician alike. An understanding of the methods of resuscitation of the newborn infant with a definite plan involving the maintenance of warmth, immediate clearing of airways, gentle handling of the infant, and appropriate and judicious use of stimulants, remains a primary consideration. The use of the various resuscitators and the routine use of oxygen during the first 48 hours, with the interval use of carbon dioxide and oxygen mixtures through these critical hours, are also of paramount importance.

Incubators are of great importance in the very small premature infant, but unless the use of the incubator is fully understood and unless there is an adequate nursing staff, the incubator, by its tendency to overheat the infant, may be actually detrimental.

The author says that the ideal premature nursery would be an entirely separate unit, with an additional separate room for the isolation of all infected infants. The cubicle unit containing three or four bassinets, with one nurse taking care of only one cubicle, would appear to answer the problem of infection most adequately.

COMMENT

The study of premature mortality remains an important one. In 1938, 31,100 neonatal deaths were reported by the United States Bureau of the Census as directly due to premature birth.

This is a very splendid article by some of the outstanding authorities, chief among whom is Dr. Robert Strong, well known to all of us in Mississippi. The high death rate of the premature is well known. There should be a note of warning sounded in regard to the use of resuscitators. It is generally agreed among pediatricians that the use of resuscitators can be easily overdone.

There are two modern remedies that can easily be classified as very dangerous unless properly used. One of these is the resuscitator and the other is the disposition on the part of some energetic physicians to use tracheal catheters.

Dr. Julius Hess of Chicago, an outstanding authority on the newborn, on a recent visit to Mississippi was talking to me about injudicious use of these remedies by some physicians. He said that he had seen a good many infants come to death as a result of overdoing these two outstanding modern advantages toward the resuscitation of newborn infants and particularly the premature. I feel that if all hospitals over the country would revise their general technique for the care of the newborn and adopt certain well known pediatric rules and regulations for their protection that many deaths could be prevented.

All in all this is a splendid article and should be read by every practitioner in Mississippi and should be a guide to every newborn nursery in the country.

State Board of Health

Felix J. Underwood, M.D.

MENINGOCOCCUS MENINGITIS INCREASING

There has been a disturbing increase in the amount of meningococcus meningitis in the state during the period December 1942-March 1943, as compared to the number of cases for the same period in 1941-1942. In the three-month period. December, 1942 through March 12, 1943 there were reported 144 cases compared to 13 for the same period during the previous year.

Many of the cases for the latter period were at military establishments, but it is to be noted that the communicable disease incidence in these areas is usually indicative of the incidence in the civilian population surrounding them.

Therefore, a word of caution and alertness is sounded by Dr. A. L. Gray, director of the Division of Preventable Disease Control, for the physicians of the state. Since we are new in the meningitis season and are facing an upward trend, a close watch should be kept with a view to early diagnosis and immediate reporting of cases to the health officer. Isolation of persons ill with the disease is about the only measure, feeble though it may be, for control of this malady, it is pointed out, and if we are to make the most effective use of it prompt reporting of cases is a first essential.

In the fight against this and all other communicable diseases, we must be vigilant, for the final outcome of the present conflict will be determined in no small degree by the collective efforts of physicians and public health workers in suppressing epidemics and maintaining health and vigor.

Emergency Medical Service

Each of the eighty-two counties in Mississippi now has a local chief of Emergency Medical Service who is preparing plans, developing an organization, and providing or assisting in providing for the training of personnel to carry out the functions of Emergency Medical Service. The local chief is a physician of broad experience and administrative ability and knows the community's medical resources and facilities. Community planning includes all resources that are available in order to provide for the greatest protection of the civilian population should an emergency occur. The increased possibilities of attack upon our cities and towns, as well as potential hazards from sabotage or similar disaster, makes imperative the preparation of facilities for providing emergency medical service for casualties that may result from such incidents.

To assist in this service, each local chief has appointed a local nurse deputy who will survey the local situation with regard to nursing participation. The local nurse deputy is making good progress in completing registration cards on all available graduate nurses for emergency service in the county, maintaining one file of these for local use and sending a duplicate set to the state chief of Emergency Medical Service. Additional information is being obtained on the number of practical nurses available, the number of people who have had first aid, and the number who have completed the home nursing course. The information supplied through these registration cards has proved very helpful already.

Hospitalization is a very important phase of Emergency Medical Service and much information has been assembled to determine facilities available. A hospital chairman has been appointed for each county to assist the hospitals in making emergency preparations and plans for the care of civilians. The emergency bed capacity of all institutions has been determined and information secured regarding other emergency facilities for hospitalization. Likewise a list of the casualty stations in each county has been compiled. More than one-half of the hospitals have organized Emergency Medical Service field units composed of physicians, nurses, and others.

The whole plan is a miniature of the plan set up by the United States Office of Civilian Defense and the Regional Office. Much work has been undertaken because of the necessity of advance planning and organization. This is the first time facilities for emergency medical service have been provided in advance of disaster, which is a notable step forward in the preventive aspects of medical care. They help achieve uniformity of procedure and awaken the community as to the various phases of civilian protection, the motion pictures, "Help Wanted," "Emergency Medical Service" and "Decontamination of Streets" have proved most helpful. Booklets of instruction, radio talks and newspaper publicity have also given support to the program.

Gas protection activities, including the medical aspects of chemical warfare, are going on a state-wide basis. A trained unit will go to the various communities for instructing the citizens in these activities.

One blood bank is being organized in the state to supply plasma for emergency needs, and it has been arranged by the United States Director of Civilian Defense for blood plasma supplied to be flown by the Civil Air Patrol into any stricken areas where needed.

Civilian defense has developed into a major organization and is recognized as vital to the welfare of every man, woman and child. To achieve its ultimate objectives calls for a great deal of work on the part of community leaders. The burden will fall less heavily on a few if responsibilities are spread out to allow participation by a larger number. Physicians can always be counted upon to be among the first to respond to any program which promises to be of potential good for the community. They have already done much to help make the civilian defense program effective in Mississippi and it is felt that they can be counted upon to make whatever additional sacrifices of time and effort may be required to make civilian defense as helpful and protective as possible.

* * * * *

Gonorrhea Control Urged

Mississippi physicians and public health workers had the privilege of hearing a noted authority during March present the subject of gonorrhea, its high incidence and the new and improved methods of control. Dr. P. S. Pelouze, Associate Professor of Urology, Pennsylvania University Medical School, and author of several outstanding medical books, sounded a challenge to the health forces of the state by pointing out that the incidence of gonorrhea is seven to ten times greater than that of syphilis, that it presents equally as great a social problem, and that treatment methods are now comparatively simple. Yet hardly a third of the cases seek competent medical attention of the qualified physician or even of the public health clinics, Dr. Pelouze pointed out. The infected male, in particular, is apt to ask help outside of the medical profession, which usually means incomplete cure, leaving him symptom-free for a time but an active source of infection to others. With the excellent methods of treatment now at the physician's disposal for curing gonorrhea, the present problem is to bring patient and treatment together, and this it is believed can be accomplished in large measure by continuous education and publicity in much the same manner as has been in the syphilis control program.

Everywhere Dr. Pelouze spoke, he left no doubt that the physician's part in this program must be a major one due to the patient's need for privacy and other consideration as an individual. His lectures were well attended throughout the state and he left a lasting impression upon all who heard him, that gonorrhea is a definite problem but that we can individually and collectively bring it under control by bending our efforts in that direction.

OVER THREE MILLION VITAL RECORDS ON FILE

Very few people in Mississippi realize the enormous number of vital records on file in the Division of Vital Statistics of the State Board of Health. The following is a resumé:

Birth certificates	1,540,610
Marriage records	1,290,630
Death certificates	681,750
Divorce records	48,051
Total	3,561,041

"For a little state like Mississippi, this is quite a batch of vital and intimate records of its people," relates Dr. R. N. Whitfield, director of the division. Most of these important documents are indexed and practically any one of them can be found within a few minutes' time.

* * * * *

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Woman's Auxiliary
TO THE MISSISSIPPI STATE MEDICAL ASS'N.

President	Mrs. V. B. Philpot Houston
President-Elect	Mrs. H. C. Ricks Jackson
First Vice-President	Mrs. W. K. Stowers Natchez
Second Vice-President	Mrs. Henry Boswell Sanatorium
Third Vice-President	Mrs. W. H. Anderson Booneville
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Fourth Vice-President	Mrs. Stanley Hill Corinth
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Advisory Council: Dr. H. Lowry Rush, Meridian; Dr. Leroy Wilkins, Clarksdale; Dr. Henry Boswell, Sanatorium; Dr. J. P. Wall, Jackson; Dr. J. R. Hill, Corinth.

PLANS OF STATE MEETING ANNOUNCED

The state president, Mrs. V. B. Philpot of Houston, is happy to announce that both the national president, Mrs. Frank N. Haggard of San Antoino, Texas, and the Southern president, Mrs. Richard Clark of Hattiesburg, will be guest speakers at our state meeting in Jackson, May 11 and 12. Also at the annual luncheon Mrs. Dan J. Williams of Gulfport will give a brief history of the Auxiliary in token of the

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organization's twentieth anniversary.

Mrs. James Grant Thompson of Jackson is head of the entertainment committee for Auxiliary members. Wives are urged to accompany their doctor-husbands this year especially. The renewed contacts will be worth much, and the inspiration to be derived from hearing Mrs. Haggard and Mrs. Clark's messages will help members carry home inspiration for greater activity in local groups.

Sessions will be held at the Heidelberg Hotel.

AUXILIARY FORMED

Organization of the Woman's Auxiliary to the East Mississippi Medical Society was completed at a meeting last month called by Mrs. H. Lowry Rush, councilor of the sixth district, Auxiliary to the Mississippi State Medical Association.

Mrs. H. C. Ricks of Jackson, state organization chairman, presided at the meeting which was attended by wives of physicians of Lauderdale, Clarke, Winston, Neshoba, Newton and Kemper counties.

Following are the officers and chairmen elected: Mesdames A. C. Bryan, president; M. L. Flynt, Jr., secretary; N. C. Knight, treasurer; C. T. Burt, historian; R. L. Fowler, parliamentarian; Lamar Arrington, research and romance of medicine; T. L. Bennett, publications; Mayo Flint, legislation; H. Lowry Rush, public health and Preventorium; Karl Stingily, press and publicity; Byron Alexander, Hygeia; Guy Vise, Leslie Rush and W. R. Holladay, Doctors' Day, all of Meridian.

Vice-presidents were elected from each county as follows:

Mesdames E. E. Robinson, Lauderdale; H. C. Watkins, Jr., Clarke; W. B. Hickman, Winston; W. H. Banks, Neshoba; C. F. Hester, Newton and V. M. Creekmore, Kemper.

Meetings will be held quarterly on the same day as the medical society.

Plans were made for a special entertainment this month in celebration of Doctors' Day.

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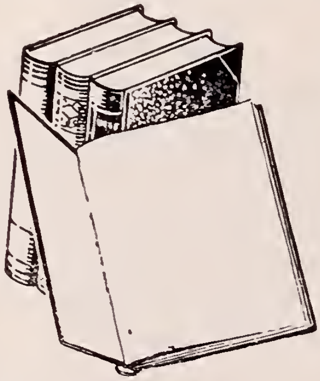

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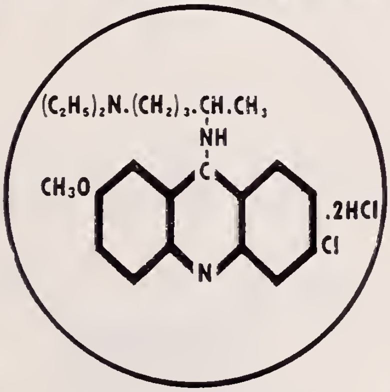

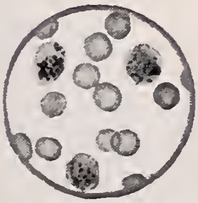

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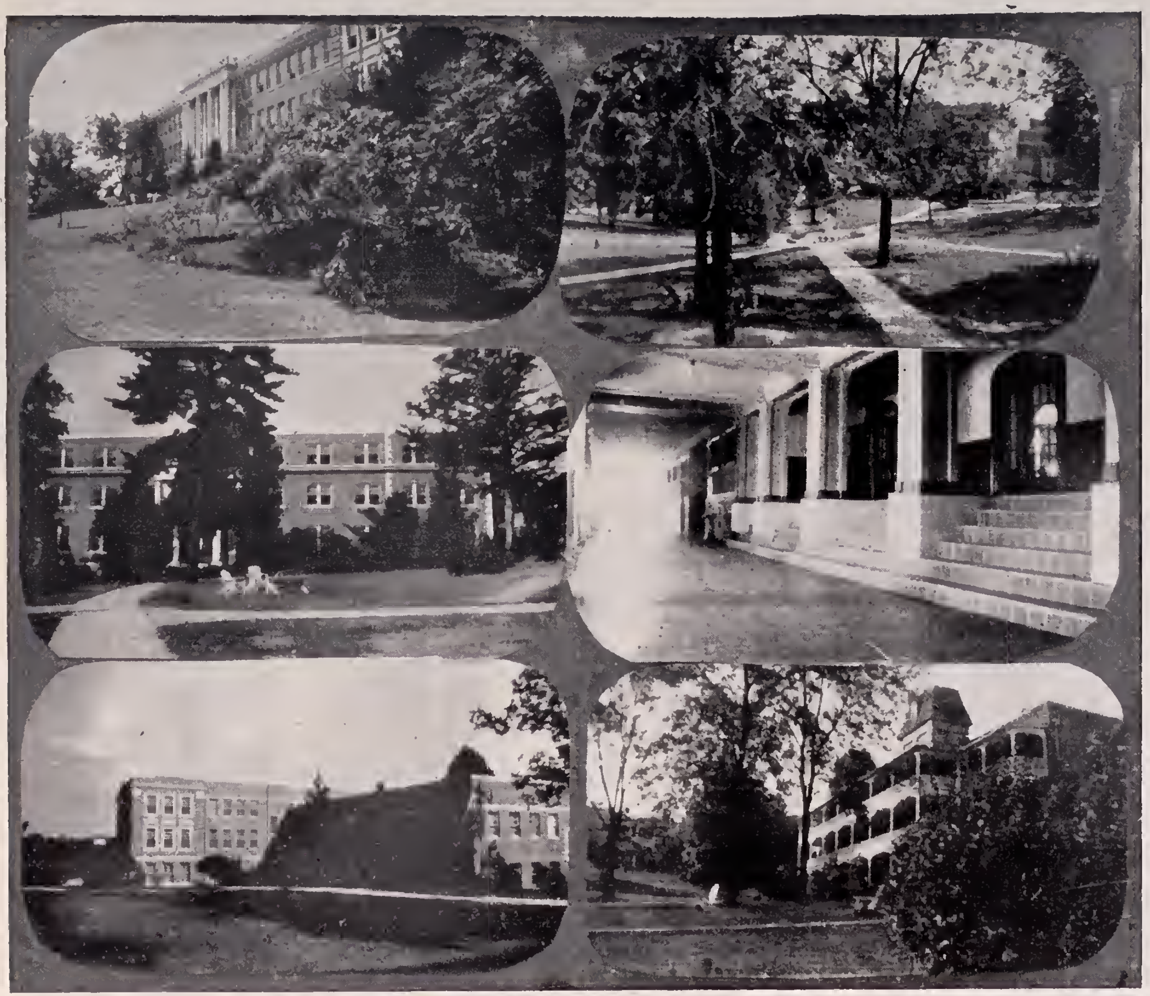

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†COLLINS, E.N.; PRITCHETT, C.P., and ROSSMILLER, H.R.: The Use of Aluminum Hydroxide in the Treatment of Peptic Ulcer, J.A.M.A. **116**: 109-113 (Jan. 11) 1941.

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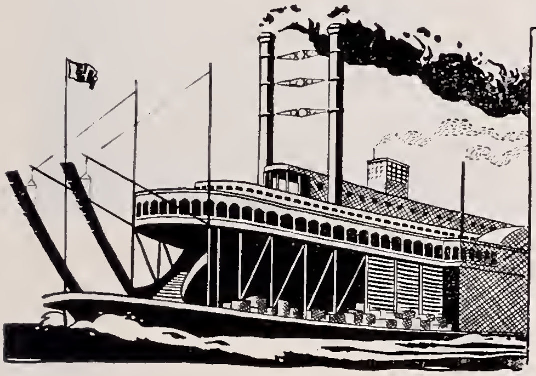

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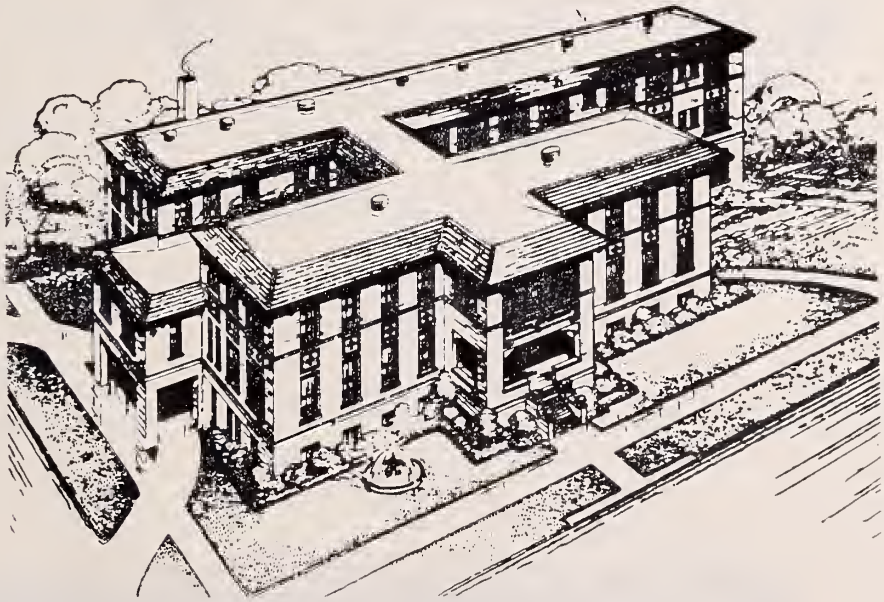

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Today's Challenge to Medicine*

H. LOWRY RUSH, M.D.
MERIDIAN, MISS.

As we meet here tonight, in annual assembly and fellowship, I feel that I bespeak the hearts and minds of each of us when I say that we of the medical fraternity have much cause for both sorrow and joy: sorrow, that the minds and bodies and hearts of so large a portion of mankind today are crushed and wounded and destroyed; joy, that medical science and the great advances of our chosen profession have been able to do so much to alleviate these self-same ills and wounds of suffering for a well-nigh despairing humanity. Indeed, it is well that each of us, for this occasion and this brief interlude from the heavy duties and responsibilities of our chosen career, put aside the often crushing weight of our daily affairs.

However, I believe that you will with overwhelming unanimity concur in the assertion that the responsibilities of this day leave to us not the pleasant choices of life nor the easy ways of living, but only the inevitable choice that now, more than ever before, at least in the lives of those here assembled, our contentment and justification can only be found in the acceptance and performance of our responsibilities to mankind, and on this occasion the discussion together of the grave challenge of today's events to medicine and medical science, and thus derive from our unity and fellowship together renewed strength and determination fearlessly, gladly, and fully to meet, accept and fulfill this challenge.

We cannot escape the realization that, even while these few words have been spoken, men and women have suffered and bled and died that you and I might be really free, that medicine might go onward in its unhampered way for the service of humanity, that the minds and hearts of "men and good will" may under a divine Providence go forward, unhindered and untrammeled, in work and research for the alleviation of the ills of men.

May we also find reassurance in the knowledge that other men and women engaged in this great struggle for the freedoms and decencies of life have been succored, healed, and restored by the heroic ministry of men and women of medicine, and by the truly marvelous discoveries and advances in the medical profession. In this, we can justly derive satisfaction and happiness in the knowledge that medicine is contributing at least partial payment upon this great debt of mankind to those who serve on the embattled fronts of land and sea and air.

He would be a brave, if not a foolhardy, person who would, in this year of 1943, dare to prophesy the future of this strife-torn world of ours, of what even the next decade shall hold in store. But of one thing I think we can be certain. We face a changed future. And that, I submit, is all to the good. No heritage of past accomplishment can ever be deserved, if we are fearful to build upon it. The greatness of modern medicine lies in its courage to tread hitherto unknown paths, to try unknown ways, fearlessly to climb previously unscaled peaks of knowledge, of research and experiment.

There are those professions which have so tightly bound themselves to the past that they largely forfeit for themselves a place of usefulness in the ever-changing and advancing generations of men. Whatever other mistakes may be justly laid at the door of our profession, whether we have or have not fully met the tremendous social demands upon us, I think we may happily say that we have not been afraid to keep pace with the discoveries and greatly increasing knowledge of a rapidly advancing civilization, of business, industry and the manifold other phenomena of our complex society. Enlarged responsibility has been consistently met with enlarged service and knowledge, until we are able to accomplish in our daily and routine practice miracles of healing that were hardly dreamed of a short few years ago.

And so modern medicine has now proudly and rapidly advanced in glorious fulfillment of a great destiny and of great opportunity. But such fulfillment has not brought to our profession surcease from challenge, as, indeed, no such fulfillment can ever do. Rather it has only increased our responsibilities, emphasized today's challenge, and made imperative our continued, fearless, and full acceptance of these responsibilities.

---

*President's address delivered before the seventy-sixth annual session of the Mississippi State Medical Association, Jackson, Miss., May 11, 1943.

We may safely assert that at no time in the history of this association has our profession faced such grave problems or been called upon to meet so many perplexing and varying demands of so many people. Not only is this true of our own professional problems, but mankind and civilization itself stand at the very crossroads of history. On the one hand is the clearly delineated, smoothly paved, easily traveled highway that descends with startling rapidity into the darkness and despair of ignorance, intolerance, prejudice and tyranny that held sway over the minds and hearts of men during the Middle Ages. On the other hand, there lies the rugged and difficult pathway of tolerance, of knowledge, of hope, of the freedom of men, of the decencies of life, and, for us, the alleviation of the ills of the bodies and minds of men. Man advanced a little upon this pathway of hope in the Renaissance from the lethargy and despair of the preceding ages. He has continued to go onward, higher, further along this rugged ascent toward the mountain-tops of human endeavor, yet so far away. This pathway is not easy. It is rough and strewn with obstacles, sometimes appearing well-nigh impossible to overcome. Often we have stumbled and fallen; sometimes we have slipped backward toward the valleys of despair, all but overcome with dismay by the tortuous climb upward. But we have found reassurance in the knowledge that the harder and steeper the path, the greater strength to be gained in overcoming its difficulties and always, upon the far-off horizon, looms the grandeur of the peaks toward which we climb, and the knowledge of the limitless vista that shall be the reward of men of courage and of good will when the last lofty crag has been scaled and the summit of the highest peak won.

Let us also remember that times of great crisis, such as the one in which we live, are also and inevitably times of correspondingly great opportunity. Great responsibilities likewise challenge great fulfillment. I would again repeat what was briefly remarked at this assembly. As then stated, the health and great part of the world's future lies in the hands of our profession and we are responsible for its safe-keeping.We are indeed the *first* line of defense. In these great days of destiny, with their abnormal strain and stress upon the bodies and minds of men, it is of paramount importance, not only to the members of the armed forces, but to the men and women of the civilian population of the world, that the bodies and minds of men be preserved in health or restored thereto, so far as can humanly be done. As terrible and tragic as are the wounds of war, these are but the beginning of the horrors of the horsemen of famine, disease and destitution that follow in the wake of war.

When arms shall once again be laid aside, when swords shall once again be sheathed, when peace shall once again come upon and into the hearts of men, our work and our challenge shall not be ended, but only then beginning. We cannot dare, even then, rest upon our arms; we can know no armistice. For how can this brave new world for which we so greatly hope be brought to pass, unless the bodies and minds of our people are whole and well and strong? How, indeed, can this brave future be accomplished, or ever maintained, unless we bring to suffering humanity of all nations surcease from the ills and diseases of body and mind wrought by this great tragedy that men inflict upon men? And, unless that future be accomplished, what justification can we possibly find for the great sacrifices of life and body and hope that are today being laid upon the altars of free men?

Neither you nor I, certainly not our great profession, can ever justify our heritage by only holding and retaining that ground previously won for us by those who have gone before. We can only find justification by going further along the road of service and ministry than ever yet man has trod, only by gaining new heights and scaling higher summits than yet have been dared. We doubtless shall come from the turbulent days of war into the calm harbors of peace with newly gained and perhaps now undreamed of discoveries for the alleviation of human ills. Our possibilities of service may well be extended beyond our fondest hopes. We cannot, nay, we will not, permit the gigantic responsibilities that rest upon us, to deter our fulfillment of the great challenge that inescapably is our lot and our privilege.

Let us remember that to some generations of men come only the peaceful, quiet affairs of life, but to others, and among them ours, come the great responsibilities entailed by the troubled periods of the world's history. Such generations indeed are those that try men's souls, but they are also those that produce the great advances, the great visions, the great hopes, the great opportunities, and the great achievements of men. Such is the challenge and opportunity of our generation, and were we to have the choice, though we do not, I do not believe that we would have it otherwise.

And now, finally, may I say that, with the great heritage that is ours of the medical profession, a heritage of service, of sacrifice, of courage, of ministry, our future horizons of service are now only largely limited by the extent and courage of our vision. It has been truly said, "Where there is no vision, the people perish." It is likewise true that whenever a profession loses its vision, that profession atrophies and dies. Let us, therefore, be not dismayed by the greatness of our responsibility, nor the consequent challenge to us; but rather, with renewed vision and courage, dare unscaled heights of knowledge, service and attainment for the ministry to men. Our recompense shall then surely be the ultimate reward promised by our profession, a task well done, a challenge courageously met, a responsibility fulfilled, a heritage justified, a trust faithfully performed, mankind succored and healed from the wounds and ills inflicted upon itself.

Prevention of the Loss of Teeth*

C. C. BASS, M.D.†
New Orleans, La.

The importance of our subject arises from five observations:

1. There is almost universal prevalence of the diseases, caries, and periodontoclasia, from which practically everybody, if he lives long enough, sooner or later loses part or all of his teeth.

2. The duration of these diseases from which each separate tooth is lost, often covers months, years, often many years.

3. There is impairment or loss of the function for which the teeth are provided. Most people, by the time they reach middle life, already have lost some, many, or all of their teeth. This means that they must go through the remainder of life masticating their food imperfectly and with more or less difficulty. They are deprived, to a greater or less extent, of the pleasure and satisfaction one enjoys from eating, and of the important aid to digestion which results from proper mastication of food.

4. There are comparatively so few symptoms that the average person has no correct idea of the nature and the extent of the damage and the pathological process going on in his mouth. Symptoms which he recognizes are usually only those of the far advanced stages of disease and appear only long after more or less permanent damage has occurred.

5. And finally, although these diseases and resulting loss of teeth are entirely preventable, there is at present no source of the essential information for prevention available to the great mass of people who need it. The dental profession is depended upon, but very few people who consult dentists receive the advice and information which are absolutely essential for prevention of further disease or for prevention of further progress of the disease that already exists.

The wide prevalence of "bad teeth" in the general population throughout the country is indicated by the large number of rejections for this condition in the first selective service draft. Bad teeth stood at the top of the list of causes for rejection, until later on, when it was decided to disregard, more or less, this disability.

---

*Ewing Fox Howard Oration, Mississippi State Medical Association, May 11, 1943.

†From the Department of Medicine, School of Medicine, Tulane University of Louisiana.

Casual observation of people as they smile and talk and laugh reveals only the gross diseases and abnormalities of the teeth, and the absence of some of those that already have been lost. Most people lose their chewing teeth first. A person who appears, upon casual notice, to have well preserved front teeth, usually will be found to have active and often advanced disease affecting part or all of those farther back; probably some are already gone.

Loss of teeth increases and advances as certainly as age advances, so that it is generally thought of, even by physicians and dentists, as being a part of the ageing process, and always to be expected, if one lives long enough. We are so accustomed to our own association of bad teeth, absence of teeth, and the makeshift of artificial appliances with advancing age, that we are hardly able to realize the fact that those conditions are entirely preventable and unnecessary at any age.

Even the physician, who should be in better position than others to realize the harmful and profound effects of the disease and loss of teeth upon the health and comfort throughout life, and actually upon the length of life itself, is usually quite indifferent and neglectful of the matter. Not only does he already surely have disease from which he gradually loses his teeth, but if he looks for it, he will find the same condition in practically every adult patient he examines. He does nothing to prevent effectively the loss of his own teeth or to help his patients save theirs.

For the purpose of securing accurate and significant information relative to the prevalence of the two diseases from which teeth are lost, a careful study, especially applicable to physicians, was made recently of a cross-section of the present senior class at Tulane University of Medicine. Ten per cent of the students in the class were selected in a way which would make the findings statistically significant. Each one of these twelve students was carefully examined for caries and periodontoclasia. In addition, a history was carefully taken of their oral hygiene habits, the dentists each had consulted during the previous ten years, and what, if any, advice or instructions had been given by the dentist for the prevention of further disease.

This is a favored group of young men whose oral health could reasonably be expected to be about as good as that of any other class of people in the country. They already have general college education and are now preparing themselves for health service and the combatting of disease. One third of them are sons of physicians or dentists, and one, the son of a trained nurse. These, especially, have come up in a medical environment. They should have had the advantage of whatever oral health service is available through professional channels.

Briefly, the survey showed that each one of these students had one or more fillings in one or more teeth, some many. Several already had lost one or more of their teeth. One young man had lost thirteen. Periodontoclasia lesions and some receding of periodontal tissues was found in every individual, varying from two to many lesions. Material from such lesions contained abundant pus cells, establishing the diagnosis of active inflammation and suppuration.

Many of these students had from one to several deep periodontoclasia lesions, indicating long standing suppuration and destruction of periodontal tissues. Such lesions represent advanced stages of the disease and more or less permanent impairment of the supporting mechanism of the tooth.

The oral hygiene practice necessary to prevent caries and periodontoclasia was not followed by any one of these students, as was shown by the histories given and by the presence of these diseases.

What was found in this representative cross-section of medical students indicates the conditions that exist in medical students throughout the country. We can be certain that the conditions in this regard, in people in general, of the same age group, are much worse than have been found in this rather favored group.

Medical students of today will become the physicians of tomorrow. We have here, therefore, some indication of the unpromising outlook for the oral health welfare of the physicians of the future. We also have some suggestions of the very unhappy situation, in this regard, of the physicians of the present, who are surely worse off now than they were when they were medical students. And, since we can hardly expect the public generally to be better off or better informed on this health problem than the physicians to whom they are expected to look for leadership and guidance in health matters, how unpromising is the outlook for them!

CARIES

The fact that caries is a local disease and that the way in which it is initiated and progresses is a result of bacterial action has been known for more than 50 years, since the original, thorough, and convincing work of W. D. Miller[1] first published in this country in 1890. The fact that this explanation of the cause of caries is still questioned, doubted, denied, or misunderstood by many is a good example of how long it may be, sometimes, from a scientific discovery until its potential benefits are fully realized.

The pioneer work and leadership in this country of G. V. Black[2,3] and his associates early in 1900, brought further evidence and confirmation of the local nature of caries and the way in which it is caused by the action of bacteria at favorable locations for their propagation and retention.

Notwithstanding the many known and other unknown factors that influence the occurrence and progress of caries, the fifty-year-old slogan is still absolutely true; viz., "A clean tooth will not decay." Conversely, any tooth that decays has not been kept clean.

PERIODONTOCLASIA

The local nature of periodontoclasia has been known since the epochal contributions of Dr. John W. Riggs[4] of Hartford, Conn., in 1876 and during several years thereafter. He maintained that periodontal disease begins as a local inflammation of the gingival tissues, produced by the irritation caused by calculi and other accretions on the teeth contiguous to the free margins of the gums. His claims were substantiated by his success in arresting and permanently controlling the disease by thoroughy removing these accretions from the teeth.

W. D. Miller[1] maintained that periodontoclasia is essentially a local infective process in which the periodontal tissues are destroyed. He identified several different species of bacteria as being present in the disease, but was unable to identify any particular organism as the specific cause.

Black[2,3] also maintained the local nature of periodontoclasia and emphasized the importance of invasion of the periodontal tissues by micro-organisms, several different species of which he found associated with the disease.

The lesions of periodontoclasia begin and progress only at locations where bacterial film and food débris accumulate and are retained for long periods of time, and never where the tooth is kept clean at the gum margin. Therefore prevention and cure is to be accomplished by keeping the teeth clean. To the former slogan, "A clean tooth will not decay," I would add with equal force, "Periodontoclasia does not occur about a clean tooth." Knowing these two facts and a practical way to maintain clean teeth is all that anyone needs to be able to keep all of his teeth throughout a long life. Under the circumstances, it may be helpful to direct attention to some important information, as to when and how to clean the teeth.

WHEN TO CLEAN THE TEETH

There are enormous numbers and the greatest variety of bacteria in the mouth at all times. Others are being introduced frequently with food and drink, and otherwise. There is no such thing as sterilizing the mouth from bacteria. The best that can be done is to reduce the number as much as possible at frequent intervals and to remove the food which serves as culture media for them. Bacteria do not multiply or grow to any appreciable extent, except in the presence of suitable culture media. Removing remnants of food (particles and solution) in cleaning the teeth deprives the bacteria of nutriment and limits their growth.

Bacteria can produce the acids which initiate caries only when growing in the presence of sugars and other carbohydrates. Cleaning the teeth and mouth of food remnants prevents production of acid by the remaining bacteria until carbohydrate containing food is introduced into the mouth again.

If one cleans his teeth thoroughly at night before retiring, there follows a period of several hours during which no acid is present and when none is produced at these vulnerable locations where caries are most likely to occur. It is to gain this longer period of freedom from bacterial growth and acid production which makes it necessary that the teeth be cleaned at night before retiring. If, on the other hand, one retires with an uncleaned mouth containing the accumulation of bacteria throughout the day, plus retained food material, a most favorable condition exists for enormous multiplication of bacteria, fermentation of food, and production of acids during the night.

Acid producing bacteria, even in the presence of favorable culture media, do not produce considerable concentrations of acids until after a good many hours of incubation. The period from the time food is taken in the morning and during the day, until time for cleaning the teeth again at night is not sufficient for harmful amounts of acids to be produced. Therefore, for the purpose of preventing caries, it is only necessary to clean the teeth thoroughly at night before retiring.

If, for purposes of personal cleanliness and comfort, one finds it convenient to clean the teeth partially or thoroughly at other times of the day, such as upon arising in the morning and following some or all of the meals during the day, no harm will be done. However, this is not necessary to prevent decay of the teeth. Circumstances and convenience, and one's own personal pride will have to determine whether he is willing to carry about with him, at any time, decomposing and sometimes putrifying remnants of food in his mouth and about his teeth.

Periodontoclasia is caused primarily by the long continued presence of an accumulated mass of bacteria, sometimes called tartar, on the teeth at the margin of the gums, especially between the teeth. Bacteria are able to grow and accumulate here where they are not washed away by the saliva or dislodged by the normal movements of the mouth and tongue. They are nourished by food material which also may lodge and be retained in such favorable locations for long periods of time. Sometimes particles of food that were taken, even two or three days previously, can be removed from such locations. Of course decomposition of such retained material may be far advanced. One who has not thoroughly cleaned the spaces between his teeth previously will be surprised at the amount and the character of material which is retained there.

If the approximal surfaces of the teeth at the gum margin, where periodontoclasia begins, are cleaned of bacterial film and retained food material at night before retiring, there follows a period of several hours, during which there is little increase in bacteria. Indeed the most rapid recovery of the gum tissues occurs from the irritation and inflammation going on there.

Such harm as is caused by retained food taken during the day and before time to clean the teeth again at night usually is not sufficient to offset the benefits of freedom, during the previous night, from irritation.

If, on the other hand, the day's accumulation of bacteria and food débris is retained during the night enormous increase of bacterial activity goes on. Irritation and inflammation of the gum tissue impinged upon, continues through the night, in place of the normal healthy condition, which would have existed if the foreign material had been removed.

Therefore it is perfectly clear that to prevent periodontoclasia and to allow lesions that already exist an opportunity to heal, it is absolutely necessary that the teeth be thoroughly cleaned at night before retiring. Of course no harm will be done and some benefit may accrue if it is found convenient and practical to clean them at other times also.

How to Clean the Teeth

In order to save all the teeth it is necessary that all should be cleaned. To clean a part of the teeth thoroughly and others poorly or not at all means that only a part of them are being saved and that the preservation of the others is being jeopardized. Each tooth, to be saved, must be kept clean.

We may think of a tooth as presenting five different surfaces for cleaning; viz.. the labial and buccal surface in contact with the lips and cheek, the lingual surface in contact with the tongue, the occlusal or grinding surface, and two approximal surfaces next to adjacent teeth. The first three surfaces can be cleaned by the proper use of a suitable toothbrush. The approximal surfaces can be cleaned *only* by the proper use of dental floss. No other effective way has been found. Neither is it likely that one will be found in the future. In the light of all the information we have now, one must learn how to clean the approximal surfaces of his teeth with dental floss, and do it, or sooner or later suffer the inevitable consequences of caries and periodontoclasia.

Use of the Toothbrush

Many years ago a special committee from the American Dental Association, after thorough study and investigation, reported and published the specifications for a toothbrush that had been found best for cleaning the teeth. They recommended a plain, straight-handle brush, with the brush head about one inch long, handle about five inches long, three rows of bristles, six tufts to the row. No other shape, size, or kind of brush is as effective as this one for cleaning the teeth.

One will find brushes conforming to these specifications in the toothbrush stock of almost any store, together with an elaborate display of brushes of many other kinds, every one of which is inferior to the extent that it deviates from the above specifications. One cannot clean his teeth successfully with some of them, no matter how hard he tries. Anyone who, through high pressure salestalk, misleading advertising. lack of information, or misadvice from others, selects and depends upon such inappropriate toothbrushes is already partly defeated, however sincerely he desires and tries to save his teeth.

The extent to which people do not now use toothbrushes that are best adapted to the purpose of cleaning the teeth is indicated by what was found in the study of the cross-section of medical students referred to above. Two of the twelve had brushes that conform to the best specifications, as given above, and two others had brushes that were not very far from these specifications. Eight had brushes that deviated seriously from the best kind. In several instances it would have been practically impossible to clean the teeth with the brushes they had. It is a serious situation when the information and influences that govern the selection of toothbrushes lead at least two thirds of the people, as indicated here, to use inappropriate and ineffective ones, and cause many people who really do try to save their teeth, to fail.

The toothbrush cleans the teeth by the digging action of the ends of the bristles which are forced into the fissures, grooves, and depressions on the teeth, where food débris and bacterial film tend to accumulate. The brush should be held firmly against the surface of the teeth and drawn back and forth with short strokes. All the teeth in the mouth can be cleaned well in this way in less than one minute's time. A better job can be done in this way than by any other method of brushing. The special methods so often advised to brush "up and down" or "round and round" or some other abnormal way, are entirely unnecessary, if not worse.

Use of Dentifrices

Many dentifrices are harmful in one way or another. There may be some that are harmful directly. If there are such, even these are indirectly harmful because their promotion and use misleads their users to depend upon them to the neglect, more or less, of the other steps that are essential to save the teeth.

Hands and fingers soiled with greasy food, and similar material, are easily cleaned with soap and water. To help clean food and other material from the teeth, a touch of the same kind of toilet soap on the toothbrush is all that is needed. Usually, anyone who tries it for a few days will be rescued from the harmful effects and the cost of dentifrices of any kind, in the future.

Those who discolor their teeth with tobacco, and with food and drinks which stain them, may wish to polish them occasionally with some abrasive powder, such, for instance, as prepared chalk. However, excessive use of abrasives in this form or in dentifrices, and overbrushing with them, may do more harm than good. The same can be said of chemicals in dentifrices to whiten the teeth.

Use of Dental Floss

As was said previously, the only way by which anyone can clean the approximal surfaces of his teeth well enough to prevent caries and periodontoclasia there is by the proper use of dental floss. Anyone who does not clean these surfaces with dental floss cannot save his teeth against the ultimate effects of these diseases.

The best dental floss consists of a waxed, round, silk string, twisted with about ten turns to the inch, and not more than 0.3 millimeter in diameter. Such floss is not now available. Perhaps it may be later. The dental floss now available for general use is oval or flat and has a twist of about three turns to the inch.

Before the war, practically all manufacturers made their dental floss of silk. Now they have to use synthetic substitutes because all silk supplies have been frozen for war purposes. The synthetic material used is better than nothing, but it is very inferior to silk. I do not know anything about the supply and the stock of silk available, or the urgency of the need for it for other purposes. However, I do know that it is certainly an unfortunate situation that enough cannot be released for the manufacture of dental floss, upon the use of which depends the oral health of so many millions of the American people, and of other millions in the armed forces.

Each person must develop his own technique or manipulations for cleaning his teeth with dental floss. The important thing for him to know is that it is necessary to clean both approximal surfaces of each tooth down to the gums. This is accomplished by carrying the floss down to the gum margin and into the gingival crevice, and then endeavoring to draw it diagonally across the surface of the tooth. Before removing the string from the space, the surface of the other tooth should be cleaned in the same way. One passes on to succeeding interspaces and cleans the two tooth surfaces, until finally all the teeth have been cleaned. Vigorous rinsing of the mouth and teeth with water helps to remove loosened material, and food material in solution, especially fermentable sugars.

BLEEDING GUMS

A person cleaning his teeth with dental floss for the first time may find that his gums will bleed. This is due to the process of periodontoclasia lesions, which probably had not been recognized previously. Touching and manipulating the inflammed and congested tissue just beneath the gum margin is sufficient to cause the bleeding. The same thing happens more or less every time food is chewed. Many a person with extensive periodontoclasia would be alarmed to know how much blood flows from his gums and is swallowed with his food every time he eats. He would be worried also if he realized the amount of purulent material that is squeezed from his pyorrhea lesions and mixed with his food at every meal.

After a few days of cleaning the teeth with dental floss at night before retiring, all early and shallow periodontoclasia lesions heal and no longer bleed from cleaning. Farther advanced and deeper lesions may require longer time to heal. There may be lesions so far advanced that only partial relief and recovery can be hoped for. Little restoration of the tissues that have been destroyed can occur. Such a tooth can function only poorly at best.

DENTAL SERVICE

If one has cavities in any of his teeth, these should be filled as soon as possible. This can be done only by a dentist.

If the dentist will remove the scale and accretions at the gingival margins and in the periodontoclasia lesions in the gingival cervices, and if he will smooth and polish the approximal surfaces of the teeth, this will hasten the healing of periodontoclasia lesions. Subsequently such dental service should not be necessary, except in case of far advanced disease, and in certain areas where the patient is unable to clean the teeth. Dental service alone, no matter how efficient, does not prevent the loss of teeth. This can be accomplished only by the efforts of the patient himself.

SUMMARY

1. Almost all people, if they live long enough, sooner or later lose part or all of their teeth, from caries or periodontoclasia or both.

2. The dental health service and advice available at the present time are woefully inadequate to protect people in any walk of life from these diseases.

3. Both these diseases can be entirely prevented, and further progress of existing disease can be stopped, by properly cleaning the teeth with toothbrush and dental floss every night before retiring.

4. These diseases and the resulting loss of teeth cannot be prevented in any other way.

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Treatment of Gall Bladder Disease*

(Demonstrated with Lantern Slide and Movie Film)

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I SHOULD like to explain to begin with that in discussing diseases of the gall bladder we shall only mention those due to a bacterial infection and will not include neoplasms, abnormalities, and other conditions—and before discussing the treatment of these conditions I shall mention briefly the generally accepted theories as to the causes of gall bladder infections. Gall bladder infections occur as a result of the entrance of bacteria into the gall bladder contents or into the walls of the gall bladder inself. The several approaches for the entrance of bacteria are: first, through the blood stream; second, an ascending infection from the intestinal tract such as occurs frequently following typhoid fever; third, a descending infection or from bacterial infections of the liver itself; fourth, the lymphatics.

Now the methods of diagnosing infections of the gall bladder as well as differentiating this condition from other abdominal troubles make a long drawn-out story. So I shall only give here very briefly a few of the common symptoms. Severe pain in the upper right quadrant frequently referred to the back, nausea and vomiting, and dyspepsia of long standing are symptoms that are very pronounced and almost diagnostic. We do not have these, however, in a great many cases of gall bladder disease; and we have to depend on such symptoms as dyspepsia, bloating, gaseous formations, especially in obese and middle-age persons, intolerance to fatty and greasy foods, and upon the aid of x-ray and laboratory findings.

The duodenal tube as an adjunct to cholecystic diseases has many enthusiastic advocates. Failure to obtain gall bladder bile, findings of blood or pus, or pathological organisms, etc., should always be taken into consideration; but our opinion is that the findings of the duodenal tube is of the least importance in making a diagnosis of cholecystitis.

Cholecystography, however, has become a definitely established aid in diagnosing since it was first described by Graham and Cole in 1924. We use the iodekin dye intravenously and x-ray the gall bladder region after four hours. If it does not visualize normally we take another picture after another four-hour interval. After the gall bladder is visualized a fatty meal is given and another picture is taken two hours later to determine how it empties. A normal gall bladder casts a regular outline shadow which varies in size and density. Experience has shown that a fair percentage of gall bladders showing a normal cholecystogram have diseased gall bladders, so we cannot depend too much on this. The absence of any shadow at all in ninety-eight per cent of the cases according to Walters indicates cholecystic diseases. Less than fifty per cent of gallstones as a rule will show. Of course when we see these we are absolutely sure of our trouble. Frequently an empyema of the gall bladder or a gall bladder with walls badly thickened will show on a flat plate without any dye whatsoever. This of course is very significant. Finally, the presence of jaundice with symptoms of a very acute pain is of course almost diagnostic of a stone in the common duct.

There are many varieties or stages of cholecystitis, varying from slight catarrhal inflammations through all the stages of inflammation to empyema of the gall bladder. Stones of various sizes, shapes, and number may be found at any time. Also there may be considerable inflammation of the surrounding structures and one may find adhesions of the hepatic flexure of the colon, omentum, duodenum and liver. The presence of jaundice in these conditions is dependent on obstructions in the biliary passages, and the more complete obstruction, the deeper the jaundice.

TREATMENT: Medical therapy has an important place in the treatment of gall bladder disease and especially in preoperative and postoperative management. Also, there are many instances in which an immediate operation cannot be done, so some type of medical treatment is imperative.

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*Read at staff meeting of the Columbus Hospital, Columbus, Miss., 1941.

Briefly, medical treatment consists of regulation of the diet, use of drugs favoring evacuation of the gall bladder, and duodenal drainage. The diet should be bland in character. A high fat intake may improve the general nutrition of a thin patient as well as favor evacuation of a stagnant gall bladder. On the other hand, in obese patients the fat intake should be low in order to reduce weight and prevent distress. Small doses of magnesium sulphate before breakfast is said to relax the sphincter of Oddi and favors evacuation of the gall bladder. Patients with hyperchlohydria and dyspepsia may be relieved by alkaline powders. Attempts to sterilize the bile by any form of medication has no real effect.

The questions of operating in the early stages or in the presence of acute cholecystitis continues to be a subject of wide debate and our opinion is that such procedure should depend on our study of the patient's condition. Each case should be treated individually and no set rule adopted in advance concerning the time of operation. I believe, however, the general consensus of opinion is that if the patient is seen within twenty-four hours following the development of acute cholecystitis an operation should be advised and that the risk is not so great as the risk of perforation; but if the patient is not seen before forty-eight hours have elapsed and especially if his condition is improving, it is the wise thing to wait until the acute symptoms subside.

Remembering that one of the functions of the liver is glycogenic and any disease or operation on the gall bladder or ducts to a certain extent produces liver disturbances, administering of glucose intravenously as a preoperative and postoperative procedure is without a doubt a necessary adjunct in the treatment, and the duodenal drainage as advocated by Wangansteen is also of the utmost importance. Another adjunct to the treatment of gall bladder cases where jaundice is present has come to us in the last few years and is, in my opinion, life-saving. That is the use of vitamin K and gall bladder salts for the purpose of preventing hemorrhage following surgery on a patient jaundiced from biliary obstruction.

Each surgeon has his choice in reference to the anesthetic. During the last three years we have been using spinal more and more and we have found it to be a very satisfactory anesthesia for patients who are in fair or good condition. In poor risks I still say infiltration or local anesthesia is the anesthesia of choice, especially where we expect to do no more than to drain the gall bladder and save a life rather than do a classical operation and maybe have a dead patient.

For more than three years we have used the transverse incision almost altogether, and if you gentlemen have not already used this incision, try it once and you will never go back to the longitudinal or any other incision. You can get good exposure by it, and, best of all, since the natural thing is to come together, you will have no hernias. Cholecystectomy is the operation of choice in a majority of cases. It offers the best chance for a permanent cure, but as I have already stated, we had rather have our patient live and not be entirely cured by doing a cholecystostomy in the bad risk individuals than to remove the gall bladder completely and run the risk of our patient's succumbing to the shock of operative procedure. In our work three out of four gall bladders are removed entirely.

There are several modifications of what is known as a partial cholecystectomy which are also in my opinion worth considering and doing in many cases. I shall mention only two or three of these. First, the Pribone, removing the bladder contents and destroying the entire mucosa by cauterizing; second, one suggested by Thorek whom I had the privilege of assisting many years ago, of removing of as much as possible of the gall bladder wall and electric coagulation of the remainder; third, I am sure you all have heard the late Dr. Haggard describe his operation of partial cholecystomy which was done by removing the gall bladder walls down to the cystic duct, leaving only that part adjacent to the liver and enough of the side to incorporate a small rubber tube. This operation we have done numerous times and have found it very satisfactory and have had no postoperative trouble. In all cases it is very necessary, of course, to examine all bile ducts to see if there are any stones in them, and should one be present to incise the duct and remove the stone, inserting the ordinary T-shaped rubber drainage tube in the duct.

(Movie film of operation shown here.)

The Obstetrician's Responsibility Toward the Unborn Child*

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THE CHINESE custom of figuring an individual's age from the date of conception rather than from the date of actual birth accents the obvious but frequently overlooked fact that life *does* begin with the union of the sperm and the ovum, and not with the often momentous, but entirely incidental, process of being born.

It may be advantageous, therefore, to center our attention for the moment on this period of approximately nine months' duration, during which the obstetrician tends the prospective mother, the pediatrician is presumably busy with the living born, and nature is almost in sole charge of the fetus. Within this period the fetus grows and develops from a single cell into a complicated seven-pound individual, and in so doing exhibits the most rampant growth in its lifetime. In no other stage of growth is there a greater call for an abundance of body building materials and at no other time are the rapidly developing organs, tissues, and nerves more vulnerable to the deleterious effects of disease or toxic agents.

It is unfortunately true that almost all of the congenital deformities and anomalies which to a large extent result from defective germ plasm are still beyond the aid of present knowledge. But it is equally true that adequate attention to the nutritional requirements of the fetus, and the elimination or control of disease in the mother has a direct bearing not only as to the relative future health of the child but at times tips the scales between life and death. These latter cases are relatively few and because of their infrequency it is all too easy to be content if the vast majority of one's babies are delivered alive and presumably relatively healthy. For while the conscientious obstetrician would feel it a disgrace to have one of his delivered infants born with congenital syphilis, not many have the opportunity to connect haphazard maternal care with some of the later afflictions of infancy or childhood, such as hemorrhagic disease of the newborn, anemia of late infancy, extensive caries, or nervous system disorders. And yet even our present knowledge allows one to connect these together in many instances.

So without any attempt at completeness I would like to review briefly some situations in which prenatal care may affect the child either favorably or unfavorably as the case may be.

To begin before the beginning, a word might be said concerning heredity. Our knowledge is still too incomplete to allow for dogmatism, but on the basis of experience it is at least justifiable to inform prospective parents that such common diseases as epilepsy, diabetes mellitus, severe, allergy, certain forms of insanity, hemophilia, etc., especially if present on both sides of the family, are considered by many as a contraindication to pregnancy.

A history of previous repeated miscarriages or stillbirths makes it incumbent upon the obstetrician to exercise all his skill in an effort to seek out the underlying cause, and if none to be found then at least to give the fetus its best possible chance under the circumstances by insisting on prolonged bed rest, for the duration of pregnancy if need be.

The exclusion of such diseases as syphilis, nephritis, cardiac decompensation, diabetes and tuberculosis in the prospective mothers should be routine as any one of these may be the cause of a premature, a sickly, or a dead infant. In this connection it is well to remember that the size of the fetus in these diseases is often disproportionately small in relation to the time of gestation, and consequently premature induction of labor may lead to a non-viable child.

Dystocia, abnormalities of position, or attachment of the placenta, as well as any decision concerning the use of forceps, Caesarean section, etc., are purely obstetrical problems, and the judgment used frequently determines the outcome.

In considering the relationship between nutrition of the mother and its effect on the fetus we are forced to deal with probabilities rather than proved facts. We have all seen non-anemic infants delivered of anemic mothers; husky, fat infants of malnourished mothers; and strong-boned infants of mothers known to be on a mineral deficiency diet, and because of this, the dangerous concept has grown up that after all nature takes care of the fetus, regardless of the mother's nutritional status, and up to a point this is true. Certainly the fetus is capable of drawing on the mother's own body proteins, minerals, etc., even at the expense of her own teeth, bones, and general body economy. There comes a time, however, when this protective mechanism begins to fail, and the fetus suffers as well as the mother. If doubt of such failure exists, read the infant mortality rates of 90% of all births in Greece at the present time. This is the result of almost complete starvation and is therefore an extreme example, but extreme examples are necessary when dealing with such indefinite and variable factors as nutrition. To a less but still definite extent the same trend can be found in the infant mortality rates of this and World War I in all countries where nutrition of the mothers suffered. Even in this country of so-called plenty the pinch is on and will doubtless grow much more acute for several years to come. The day will come when to tell a mother to eat plenty of meat, milk, eggs, butter, vegetables, and fruits will not be considered even a good joke. Carbohydrates will probably always be plentiful. Excess fats are not too essential and a general reduction of intake here will actually be beneficial, provided the vitamins normally obtained in butter and like fats be supplied. Meat, eggs, and milk are chiefly valuable for their protein content and are largely interchangeable, but an adequate amount of at least one is essential. Fruits and vegetables are of chief value for their vitamins and mineral content and cannot safely be omitted without supplementing a comparable amount of A, C, and B complex, plus minerals, chiefly calcium and iron.

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When one considers that the crowns of the baby teeth are laid down as early as the seventeenth fetal week and completed by birth and that a normal life span of the baby teeth is essential for proper jaw growth and development, one can only conclude that vitamin D and calcium should probably always be given prospective mothers regardless of the quality of their diet. Most of the vitamins are stored poorly or not at all and consequently the mother and especially the fetus are utterly dependent on the daily vitamin intake.

Anemia in the newborn period or late infancy does not often come to the attention of the obstetrician; yet he can prevent much of it. If he obtains a history of past pregnancies terminating in deeply jaundiced, dead, or sickly babies the possibility of erythoblastosis in future pregnancies should be considered. If a mother has had one or more children who were anemic in their early life the probability is that future children will be even more so, and large doses of iron throughout pregnancy is indicated. Pregnancies following closely upon one another exhaust the mother's iron reserves and lead to severely anemic infants unless iron is supplied in the diet. Perhaps the most common error contributing to anemia is the custom of clamping the cord immediately following birth. Seventy-five years ago there was great controversy over whether to clamp early or late. Then, unfortunately, some one discovered that infant blood was extremely high in both total red count and hemoglobin. This finding, amply substantiated, led to the theory that the unborn child had much more blood than he needed once the intrauterine method of oxygen exchange was outmoded by external respiration. The fact that newborn infants commonly exhibited physiologic jaundice due to rapid blood destruction led many even to advocate early clamping in order to relieve the infant of the task of destroying this surplus blood which he no longer needed. Recently, however, it has been shown that fetal blood is not at all plethoric. It averages 4,500,000 red cells with 16% gram hemoglobin, which is just a good normal. It is true that following birth the red count and hemoglobin content rise, probably due to splenic contraction, but this is probably a body defense mechanism to enable the blood to carry on adequate gaseous exchange for that period of several weeks following birth during which the lungs are still partially atelectatic. Depriving the infant of the placental blood can only make the task of this mechanism more difficult. It has been recently estimated that the blood volume of the newborn is about 530 cc., of which approximately 100 cc. is in the placenta. 51% of this is recovered in one minute following birth, 79% in five minutes and 91% in ten minutes. The immediate clamping of the cord is comparable to submitting the infant to a hemorrhage consisting of one fifth of his total blood volume. The body reacts as though to a hemorrhage by increased erythropoiesis as evidenced by a marked increase in reticulocytes in the circulating blood. In small or premature infants this loss of blood may easily be fatal. Of further interest is the fact that deprivation of the newborn infant of the placental blood may lead to iron deficiency in infancy, since the principal iron reserve of the newborn infant is in the circulating hemoglobin rather than in the tissues. Iron liberated during blood destruction is stored in the tissues and utilized as needed for later hemoglobin formation. The amount of iron lost to the infant in 100 cc. placental blood is 54 milligrams. This is enough to lower the hemoglobin in a four-month-old infant from 12 to 9.3 grams per cent. Since infants receive practically no iron in their diet for the first six months of life, the above iron loss is of very real significance.

Before leaving the subject of infant nutrition I would like to suggest that mothers be advised throughout pregnancy to harden their nipples by pulling, massaging, and even brushing them especially when taking a bath. It is too late to think of this after the infant is born, and it is most discouraging to have a willing infant, a full breast, and unusable nipples.

The use of antisyphilitic treatment for the mother as an almost certain means of preventing congenital syphilis, and silver nitrate in the eyes as a prophylactic against gonorrheal ophthalmia neonatorum are such well established procedures as to need no comment. A more recent addition is the use of vitamin K, which if given the mother at least four hours before delivery will prevent extreme degrees of hypoprothrombinea in the newborn infant and will prevent hemorrhage diseases of the newborn. It should be routine.

Any discussion of fetal accidents would be sadly incomplete without bringing up the subject of asphyxia — the greatest killer and maimer of them all. It was found to be the chief cause of death in 58% of the infants autopsied at the Boston Lying In Hospital from 1931 to 1944. Add to this the now generally accepted belief that asphyxia is one of the causes of spastic diplegia, cerebral atrophy, epilepsy, mental and other nervous disorders, and its real importance can easily be seen.

It can occur at any time during intrauterine life, but is more common toward the end of pregnancy or during labor. Asphyxia that develops following birth is due either to previous intrauterine anoxemia with resultant damage to the respiratory center, or to mechanical factors such as mucus, atelectasis, or cerebral hemorrhage, all of which are strictly pediatric problems. Asphyxia in utero, however, is an obstetrical problem and often a most distressing one. When due to mechanical causes such as premature separation of the placenta, placenta praevia or constriction of the cord, only constant watch of the fetal heart rate plus intelligent interference can avail, and only too frequently the damage is done so quickly that even the best of obstetrics will yield a stillbirth! These above causes can be classified as asphyxia of peripheral origin resulting from some interference with the entrance of oxygen into the fetal circulation, and about which little as a rule can be done.

Asphyxia of central origin results from some interference with the function of the baby's respiratory center and may be due to direct cerebral injury as occurs in hemorrhage, laceration or edema, or it may result from toxins in the blood, fetal circulatory changes associated with shock, or most particularly from narcotics or anesthetics administered to the mother during labor. This type of asphyxia is by far the most common and fortunately the one over which one can exert the maximum amount of control.

Many factors contribute toward the production of asphyxia of central origin. Its incidence is over twice as great when the mother is sick, especally in toxemia; twice as great in primiparas, and it shows a direct increase in proportion to the mother's age. It is much more common in prematures. All operative obstetrics increases the occurrence of asphyxia by many times.

In ordinary normal cases reasonable doses of properly selected sedatives to the mother probably do no harm. However, in premature births the use of any sedative is definitely contraindicated, and in any labor the use of large doses may be very harmful. Morphine or its derivatives should never be used.

More harmful than sedatives are inhalant anesthetics. It is obvious that these cannot be given the mother without to a greater degree affecting her baby since an infant's margin of safety is less than that of an adult. In a large series of Caesarean sections, in which all factors were the same except the anesthesia, where general inhalant anesthetics were used, 3.5% of the babies were stillborn, 23% severely asphyxiated, and only 58% breathed immediately. Those done under spinal showed no still births, only 4% severely asphyxiated and 92% breathed at once. This comparison is used only to illustrate the danger of general inhalant anesthetics to the fetus, and not by way of advocating spinal anesthesia as an ideal or even safe procedure in operative obstetrics. Indeed the relative frequency of maternal mortality from asphyxia immediately following spinal injection has led many obstetricians to abandon the method completely.

It has been shown that the depth of the anesthetic is of much more importance than the length and that a baby whose mother has been under more than five minutes of stage III anesthetic has little chance of breathing normally. The inference is that obstetrical anesthesia should be preceded by morphine, should be for as short a duration as possible, and should be carried at as light a stage as possible.

Resuscitation of the newborn infant frequently falls to the obstetrician. There are just three principles to follow: First, keep the baby warm. There is about a 15-degree drop in the temperature to which the baby has been accustomed and sudden chilling causes shock with associated circulatory collapse and asphyxia. Second, remove foreign material from the air passages by postural drainage, milking the trachea, swabbing, or aspiration. Third, get oxygen into the baby's lungs. This can be accomplished by gentle artificial respiration, mouth to mouth breathing, by tube or by mask. If gas mixtures other than air are used, carbon dioxide and oxygen are indicated for milk asphyxia, and straight oxygen in severe cases, as here the addition of carbon dioxide only acts as a further depressant to an already knocked-out respiratory center. The commonly used procedures such as drugs given as respiratory stimulants, vigorous spanking and swinging by the heels, violent artificial respiration, pouring of ether on the skin, immersion in an ice bath, or dilatation of the rectal sphincter are not only of no value but in cases of cerebral hemorrhage or shock can be definitely harmful. It can only be said that the infant survives in spite of and not because of their use, for if a baby is kept warm, if his air passages are open, and if available oxygen gets into the lungs he is being given his best chance of survival!

With the infant's first lusty cry the obstetrician's responsibility to him is at an end and since that same cry brings many a telephone call at three o'clock in the morning he usually is more than willing to turn his attention back to adult practice.

"The day when it could be said that our people are only ankle-deep in the war is long past. The American people — in the armed forces, in the factories, on the farm, in the mines, everywhere—are eager to do their part to win a people's war and a people's peace."
—James F. Brynes

Administrative Adjustments in Professional Staffs of Hospitals in Wartime*

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I BELIEVE there is not a single director of nurses anywhere today who does not approach her office each morning with more or less fear and trembling and a great deal of courage, in anticipation of what she may find. Will there be any more resignations from her already depleted staff? Will there be someone waiting to ask from one day to several weeks' leave of absence because a husband or brother is at home on furlough. She doesn't dare say "No" because the staff member will resign and go anyway, only to be snatched up for employment by some other hospital immediately on her day of return. What errors both of omission and commission will be reported to her because some new nurse did not thoroughly understand the policies of the hospital or because some important post was left with an inefficient person because there was no one available who was better qualified? After receiving the night report of census and conditions on each service and each ward, she carefully reviews the working staff for that day, making such changes as may be necessary, and says a little prayer that no one will report off duty ill, and that the next twenty-hours will pass without serious disorganization. By this time the medical staff will drop by the office one by one to report an order that had been overlooked, or to question, "Isn't it possible to have one more nurse in the operating room?" or "The night nurse on ward 12 is very poor, can't she be replaced by someone better?" So, the director of nurses tries as tactfully as possible to explain to the overworked and fatigued physician that she is aware that these things are happening and will do all she possibly she can to prevent them. Then too, the doctor often expresses his appreciation of a particularly good piece of work done under difficult conditions.

Miss Anne W. Goodrich, one of our greatest nursing leaders, once told us in a class on administration in schools of nursing that the mark of a good administrator is to have her day planned carefully and then, at 8 A. M. or 9 A. M., be able to change those plans quickly to meet emergency problems as they arise. I believe it is very necessary to think through these problems as carefully as possible, to have a definite plan and yet be open-minded and ready for all new development and necessary changes.

If we are to weather this wartime emergency successfully, it must be done by everyone in connection with the institution realizing the problems and feeling an individual responsibility for helping meet them. The working morale must be maintained and the staff so woven together that a good working basis can be furthered. This means joint planning between tbe medical staff, the hospital staff, and the nursing staff. There should be a mutual understanding of each other's problems and a mutual tolerance of and helpfulness in solving them. This can be accomplished by well-planned group conferences. While these conferences take time they repay many-fold by the mutual understanding and coöperative effort that results. They should be planned so that every group working in the hospital is reached and challenged to do its best to maintain the hospital service necessary for the health of our civilian communities, realizing it is a valuable contribution to the war effort.

If every nurse and ward aide knows which articles are no longer obtainable, and which ones have advanced markedly in price, and which ones need to be used most conservatively —then they will be much more willing to help save materials and more tolerant in making necessary adjustments. If they know the difficulties in the diet kitchen to get the food prepared, they are more tolerant of delays in serving trays, and knowing the great difficulty in getting new linen supplies made and torn linen repaired they will use linen more carefully. I know one group of nurses that volunteered to give one hour of time a day after their duty hours to help in making linens. This gives everyone a feeling of a partnership in meeting this emergency. It promotes a feeling of "our institution," "our service," "our efforts," and not "Why don't they (meaning the administrative group) do this or that?"

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*Presented at American College of Surgeons, Memphis, Tenn., March 26, 1943.

The nursing service should be carefully elevated under the following classification:

1) the important key positions which must be kept staffed with efficient workers;

2) nurses who are eligible for military service and whether they could be released or replaced by someone not eligible for such service;

3) the most efficient use of auxiliary nursing service, both voluntary and paid;

4) the utilization of older and "refreshed" nurses.

After deciding which positions must have an efficient person to fill them, then make each person feel that she is serving her country best by standing by the hospital and maintaining a high morale in that service. Recognize her good work and let her know it is appreciated. Be aware of her problems and assure her that all possible will be done to help her solve them. It may mean a readjustment in salaries. The War Labor Board has granted a blanket exemption from the "salary freezing orders" as it effects nonprofit hospitals.

In releasing every nurse possible for military service the hospital must take advantage of all the graduate nurse help it can get. This may mean several part-time workers and the use of older nurses with home responsibilities. Some hourly wage scale should be worked out for these people. Of course they are not as satisfactory as full-time employees who can work evening relief shifts and night duty, but they do help to carry on the nursing service while students are in classes and in many cases mean the difference between good and poor nursing care for our patients. Some places report office nurses volunteering their time from six to ten P. M. twice a week, others of their alumnae association volunteer groups supplementing the hospital nursing service. Many times the nurse wives of soldiers are anxious to work a few months while stationed some place. They usually just walk in inquiring if they can help out. We must be ready to use them even though they will be gone almost as soon as they learn the hospital policies and routines. But if the key positions of head nurse and supervisor can be kept stable then the new graduate nurses can be oriented very quickly. Most of them respond well to the feeling of being needed and being given definite individual responsibility as a part of a workng whole.

It has been said that the paid ward aide or helper is rapidly becoming the "vanishing American." The war industries can afford to pay much more and, also, war industries must have workers. This makes the hospital more dependent on volunteer helpers. The nursing service should be studied carefully and those duties which can, with safety, be delegated to a non-professional group. Then plans for maintaining this non-professional group may be established. Paid helpers should be provided whenever possible as they are more dependable and soon feel a part of the organization.

Red Cross Nurse Aides should be used to best advantage. and many times groups of school girls will be glad to come in after school and on Saturdays and Sundays. They can be used in almost any department, on wards to feed patients, to run errands, to wash dishes, in the kitchen to prepare salads, fix fruit juices, set tables; in the linen room to sort linen, fill linen orders for wards, help mend linen, etc. It takes time and patience to teach these groups but again, like casting our bread on the water, it will return many-fold. Someone must work out time schedules, carefully considering when they can come and on what days, so that the service is continuously covered. The success of this volunteer help is in making them feel needed and appreciated. It can also build up an excellent lay relationship and friendly spirit.

Every administrator must realize it is up to her to set the working tempo and build up this morale. She must put her shoulder to the wheel and shirk no responsibility. She must know how tactfully to stimulate all laggards and to keep a lightly restraining hand on those who under sudden inspiration act without thinking through to the results. At the same time care must be used not to crush initiative in these individuals.

In conclusion, I would say the most important administrative changes involve reevaluation and clear statement of aims, a careful consideration of salary scales, well-defined and understood policies, and giving each individual the privilege of being a part of the organization and not merely an appendage of it—these will build up a wholesome relationship which will enable us to meet the wartime needs and to continue to give efficient care to our patients.

Civilian Medical Practice and Administrative Adjustments in Professional Staffs of Hospitals in Wartime*

GEORGE D. SHEATS, M.D.
Administrator, Baptist Hospital
MEMPHIS, TENN.

WE, AS HOSPITAL administrators, realize the necessities of war and that first things come first. We also realize that we owe a duty to the civilian population in the community in which we serve. With an ever increasing demand being made on civilian hospitals to supply trained personnel to our armed forces, and with the opening of more and more government hospitals all over the country which must be staffed with both lay and professional personnel, from dietitians to anesthetists, the majority of which must be drawn from civilian hospitals, and with the WAACs and WAVES taking their quota of female employees, these, together with the fact that the occupancy of most civilian hospitals is at its highest peak in recent years, make the problem of adjustment to meet these demands a constant headache to the administrator.

Teaching hospitals, that is those having teaching affiliations, are in a much better position to surplant the increasing shortage in personnel. In many instances they are able to use senior medical students in various capacities, such as history-writing and doing intravenous therapy where these procedures are done on regular schedules. They are also used as technicians in blood banks and in some instances as night orderlies. With the proposed taking over by the government of these students this practice will probably have to be discontinued, and the advantage thus gained will have been lost to such type institutions. The intern situation has improved somewhat with the accelerated program in medical schools, the present graduating class numbering 5,200, and in December 1943 and June 1944 reaching about 5,000 each. The difficulty is going to be in absorbing these groups, say, in February, approximately three months before the old group have completed their year. This will be partially obviated by the fact that many hospitals have fewer residents and junior residents and therefore will be able to adjust their schedules so there will be no overlapping of services.

The resident problem is quite another matter. It has been customary in the past for institutions to furnish attending men with junior residents and residents as first assistants. Not only has it been necessary to discontinue this practice due to the inability to procure them, but hospitals have been called up to assume an additional burden due to the fact that there is a great percentage of loss of attending staff men. The bottle-neck is further complicated by staff men having lost so many assistants that a resident is somewhat like a big league baseball player when the season begins—he can almost write his own contract and get a bonus for signing it. To attempt to meet any such compensation would not be economically sound for any institution. The Assignment and Procurement Board has recommended that the number of residents should be limited to not more than 50 per cent before the war and that this year it must be still further reduced. Not only have most hospitals suffered a 50 per cent decrease, but in most instances it has been close to 90 per cent and in some rare instances 100 per cent. Practically the only available source from which these men can be secured is from those who have been disqualified physically for troop duty. Several plans have been tried. Well-qualified and exceptional interns who having served six months and have shown promise of exceptional ability and are capable of assuming responsibility may be used as junior residents their last six months. This plan is only moderately successful as it is limited to a very small percentage of the entire intern staff. Another plan is to utilize the service of junior staff members, having them spend alternate nights in the hospital to be on call in emergencies and relieve the residents. But this works a hardship, as these junior men already have more work than they can possibly do. Neither of these plans in the main is very satisfactory, but nothing better has been brought out to date.

Institutions that are maintaining training schools are experiencing extreme difficulty in securing applicants to start classes in June. The government has set the quota to enter schools between June 1943 and July 1944 at 65,000. This number is necessary to meet the absolute bedrock needs of civilians and armed forces. Schools are unable to attract these prospective students due to the fact that immediately upon graduation from high school they are offered jobs in war industries and civilian life at fabulous salaries and are not interested in entering into a training period of from two and one-half to three years. Many schools have discontinued tuition fees; others have started paying a monthly stipend. Neither plan seems to be accomplishing the desired end. A year or so ago a program of infiltrating selected paid nursing aides was begun in many institutions for the purpose of helping with the more menial side of bedside nursing. These aides when carefully selected should be taught by the instructor of nurses in the same manner that pupil nurses are taught with a specified program of instruction, covering only such procedures as they are able to do without jeopardizing the patients' welfare. This has been found to be a most satisfactory procedure. Care must be taken, however, to see that this group does not grow to such proportions that it overbalances the training school program.

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*Presented at American College of Surgeons, Memphis, Tenn., March 26, 1943.

The program that is now being carried out by the American Red Cross relative to the supplying of voluntary nursing aides has been an agreeable surprise to most hospital administrators. When this program was first inaugurated there were many skeptics who felt that it would blossom out and after a short while die for the lack of interest. Such has not proved to be the case as these voluntary aides have been most satisfactory and they are a credit to the institution in which they serve, the Red Cross, and themselves.

The time has come when there must be a closer correlation between the attending staffs, the director of nurses and the administrator of the hospital, to the end that all unnecessary bedside procedures can be cut to the minimum, keeping in mind, however, that no procedure should be eliminated that might in any way be advantageous to the welfare and care of patients, at all times maintaining the same standard of service that has heretofore been given.

In closing, no one is prophet enough to foretell to what extent we will have to tax our ingenuity, but suffice to say that with the forbearance and patience hospital administrators are supposed to possess, and with the loyalty and coöperation of their staffs, and a sympathetic understanding from the lay public whom they serve, the job can and must be done.

A noble son reflects honor upon those who bore him. One of the most poignant and thrilling utterances of the war was spoken, as he lay dying from battle wounds, by Ensign Neal Anderson Scott, descendant of a long line of preachers. His last words were this message to his father, the Rev. Leigh R. Scott of Goldsboro, N. C.: "To have had you and mother for these twenty-four years has been all that I could ask for in this world."

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THE NEW PRESIDENT

Ellis LeRoy Wilkins was born in Lewisburg, in DeSoto County, in 1889. He received his medical education at the University of Tennessee School of Medicine (M.D. 1911), followed by work in his speciality at the Chicago Eye, Ear, Nose and Throat Clinic (1913). From 1914 to 1918 he was house physician at Hosmer Hospital, Dyersburg, Tenn., then entered the Medical Corps, U. S. Army, as a first lieutenant. He served with the A.E.F. in France until the end of the war, then returned home to locate in Clarksdale, where his practice has been in diseases of the eye, ear, nose and throat.

Dr. Wilkins married Claire Elder, and they have two daughters. He is a Mason, a Rotarian, an American Legionnaire, a Forty-and-Eighter, and a Methodist. He likes to hunt and fish. Dr. Wilkins is a hard worker, full of energy, a fine organizer, and takes a deep interest in civic affairs. He is outstanding in his chosen specialty of eye, ear, nose and throat, knows his subject well, but looks beyond its technicalities to help build health assets, physical, mental and moral. As a patriotic, useful, interested and active American citizen he would be a big asset in any town or city. He will make an able president of the Association. Let us give him a cordial hand of coöperation.

THE PRESIDENT-ELECT

Dr. B. Lampton Crawford, younger brother of a former president of the State Association and the Southern Medical Association, Dr. W. W. Crawford of Hattiesburg, has spent his entire professional life in Tylertown, Miss. He attended Mississippi College (B.A.) and was graduated from Jefferson Medical College in 1909, followed by a internship at South Mississippi Infirmary in Hattiesburg. He was a member of the State Board of Health for eight years, and was county health officer of Walthall County for many years. Dr. Crawford is the father of two sons who are also physicians.

Dr. Crawford is a Mason, a Knight of Phythias, a Rotarian, a Baptist and a member of the Sigma Phi Epsilon fraternity. He takes an active interest in the civic affairs of his community, is a convincing speaker, and has been a faithful member of the State Association through the years.

Our state organization will be in safe hands under the leadership of Dr. Crawford. He has been out with the rank and file in his practice and he knows the needs of the people as but few men in the state know perhaps. He knows well the workings of the small hospital and his ideas along this line are well balanced. As president of the Association he will be faithful to every trust.

The Mississippi State Medical Association held its seventy-sixth annual session in Jackson at the Heidelburg Hotel on May 11 and 12 as per schedule, the only departure being that the final business session was held on Wednesday night instead of Thursday morning. The public night shared a part on the president's night program. The scientific program was good and the interest in each session was unusually keen.

The attendance at the meeting was well above 250, but not up to last year. The uncertainty that existed in the minds of some for a long time as to whether the meeting would be held at all, perhaps largely accounted for the shortage. Everything considered, the meeting was a fine success.

The past-presidents showed the way in attendance with twenty-two of the twenty-five answering present. One past-president had died since the last meeting, Dr. Curry, but he had not kept up his membership in the Association. Dr. W. S. Leathers of Nashville is a past-president. Dr. P. W. Rowland of Oxford is dean of the group with a sixty-year membership. Dr. John Darrington of Yazoo City presided over the luncheon on Wednesday. Dr. John is a most lovable man, as are usually all true lovers of the fox chase. The past-presidents were the breakfast guests of Dr. Harvey Garrison, Sr., president of the Southern Medical Association, and Dr. Felix J. Underwood, president-elect of the American Public Health Association, on Wednesday morning. Dr. C. C. Bass of New Orleans, a native of Mississippi, a former dean of Tulane University School of Medicine, loved and appreciated by all of our doctors, was an honored guest. Dr. J. Rice Williams, the able and popular speaker of the house of delegates, and President Lowry Rush and President-Elect Leroy Wilkins were also guests.

The presence of Dr. Glass of Lyon and Dr. Willis Walley of Jackson was especially appreciated because of the condition of their health.

It came out during the meeting that Dr. G. S. Bryan of Amory had a birthday not so long ago. It was not made clear just how many years he has been here, but it was evident that he is still very active in mind and body and stronger than he was in the beginning.

The past-presidents made it clear that the Mississippi State Medical Association would hold its annual session as long as two of them are permitted to come together. The club voted unanimously in favor of the Southern Medical Association holding its annual session in November as usual.

Dr. Lampton Crawford of Tylertown was elected president-elect and Dr. E. Leroy Wilkins of Clarksdale took the gavel as president for 1943-44. Jackson was selected as the meeting place for next year, although Dr. O'Mara extended an invitation to the Coast that was very hard to resist.

The question of a four-year medical school for Mississippi was brought to the attention of the house of delegates on the convention hall at the recent meeting of the Mississippi State Medical Association. The discussion was rather warm. Some think we should have a first class, well-staffed, departmental hospital with non-political control first; others think that the four-year school and hospital should all come at the same time. Some think there should be an affiliation between a large central hospital and the smaller ones of the state to give internships and training for nurses and that after this plan is put in operation our state might arrange with Memphis or Tulane, or both, to give our men the last two years. The majority of the delegates think that it would be well to call the attention of the next governor and legislature to our doctor shortage, to the fact that we are not training interns, and that less than half of the men we train at Ole Miss for two years return to our state.

Our outstanding medical associations like the Southern, American, and Mid-South are largely financed by the commercial exhibitors. The exhibitors have their mission and they are striving to serve along with the profession, we think. Eighteen years ago we succeeded in placing a man in charge of the exhibits at the Mid-South Postgraduate Medical Assembly on a percentage basis and the same man has served and served well ever since. The Mid-South assumes all expenses of the essayists, but spends little for entertainment otherwise. As a rule doctors do not go to medical associations for the entertainment. The Mid-South has proved this beyond question. It does seem that our state association could take this cue when it so badly needs a financial footing. It is simple and easy and certain of success when placed in the hands of the right man. The exhibitors are a big force in boosting the attendance of a medical meeting.

The alumni banquet at the state meeting was quite a success. We congratulate Dr. Schmid and the local committee of Jackson on instituting it. More than fifty men attended. Tennessee University led, with Tulane a close second.

The spirit was fine and those attending were well pleased with the beginning.

You will read with interest and profit, in this issue of the journal, the annual oration which was given by Dr. C. C. Bass of New Orleans. Dr. Bass is a great student, an outstanding research man, and always interested in his native state. We congratulate President Lowry Rush on securing him for this occasion.

Mississippi now has 228 men in the service. We missed them at the meeting. We hope by another meeting they will be with us again, many of them at least. We are anxious to hear from them, to have a word to pass on, and we feel sure they will be glad to hear about one another. Help us to get along with *Our Doctors in the Service* column.

A few years ago Dr. W. H. Anderson and I were guests of the Alabama Medical Association, both having been invited to address this association at its annual session held in Montgomery. We devoted one afternoon to a visit to the Tuskegee Normal Institute, the school founded by Booker T. Washington for negroes. Our purpose in making the visit was to contact Dr. George W. Carver and to go through his museum. When we arrived we were met and welcomed by his assistant, Austin J. Curtis, Jr., who was training to be his successor on the faculty of the school. We learned that Dr. Carver was not allowed by his physician to receive visitors as he was suffering from a serious cardiorenal involvement. This young assistant, a recent graduate from Cornell University, showed us through the museum and explained in an intelligent and gracious manner the wonderful things that Dr. Carver was doing in chemistry. Many of the things that Dupont is now doing has been done in a small laboratory by this negro chemist. What he was doing in his laboratory was being demonstrated on the worn-out farms of the surrounding territory. He was, perhaps, the first to demonstrate the benefits to be derived from planting legumes for the restoration of fertility to the soil. He seems to have introduced the use of vetch in the South. And a few years ago I saw the startling statement that Alabama planted more tons of vetch seed than all the balance of the United States combined.

Dr. Carver died in January of this year. He did not know the year of his birth, but he was born of a slave mother in Missouri just about the close of the War Between the States. His mother was kidnapped or persuaded to leave the home of her master and the infant George was abandoned. The mother was lost from sight. The babe was returned to his master and grew up in the family. He must have been a freak comparable to "Blind Tom" who lived about that time except that Tom knew nothing (and could learn nothing) but music, while George took to botany and other branches of science in a marvelous way. Besides, he was tireless in his efforts to acquire knowledge.

With but little help he financed his schooling and graduated from the best school of agriculture in the country, the Agricultural College of Iowa. From there he came to Tuskegee and there he spent his life. No one man, perhaps, ever did more for the South than did he. A book entitled *Life and Work of G. W. Carver* has recently come to my desk. To follow this man's life is an inspiration. He wore out but never grew old. He worked until the end with no thought of money or personal aggrandizement. He could easily have become a multimillionaire. He took out no patents nor did he accept bonuses for his help. Thomas A. Edison invited him to join his organization; and other offers of salary amounting to hundreds of thousands were made and rejected. Henry Ford visited him in his laboratory on various occasions. The book to which I have referred should be read by any one who is interested in public welfare and education. I know nothing of the author of the book, but I regret the slight tendency to arouse prejudice against the white race. I am very sure that Dr. Carver would not have approved of that attitude.

I wonder if organized medicine and the individual members of our profession are watching the trend on the West Coast, in California, for instance? The Kizer organization may be the entering wedge for the establishment of social medicine. The scheme that is being followed by this organization is being publicised in the lay press and magazines to such an extent that the public may fall for it and demand something like it—no one can tell what may follow this war. The National Physicians Committee has been more or less active, but have they accomplished much? I have thought that they might be able to do something if financial and moral support should be given them. But if the rank and file of our members do not take interest and impress our senators and members of the lower house of

Congress with the importance of the matter, some fatal legislation is apt to be enacted. So many of the doctors are gone from home and those who are left are so busy that it is going to be hard to get organized effort. But let us not be caught asleep at the switch—eternal vigilance is still the price of liberty.

—G. S. B.

Dr. John B. Howell

As we go to press with the last run we acknowledge the news of the death of Dr. John B. Howell, which brings deep and sincere grief to every member of the State Medical Association. No member was more universally loved than he, no one deserved to be. Dr. Howell was indeed a prince among men. He possessed a professional mind, a medical soul, and a missionary heart. He was a well balanced, all-'round surgeon and practitioner. He loved his people and they loved him. His devotion to his family was an inspiration to anyone who observed it. He was always courtly and courteous in manner and could be no other way. Fine traits of character were a part of him, welling up from within. Surely Divinity approached an earthly perfection in the personality of Dr. John B. Howell, whose life was a true reflection of Christian ethics. We feel deeply the loss of a most treasured friend. Our sympathy goes out to Mrs. Howell and the family.

News and Comments

Dr. W. C. Walker

The June meeting of the Northeast Mississippi Thirteen Counties Medical Society will be held at the hub of the universe, Houlka, home of Dr. W. C. Walker. Orator, beloved physician, friend, host, he will welcome us on June 8.

Drs. Cecil Ward and Harley Harris of Memphis will be the guest speakers.

MEDICAL ASSOCIATION INDUCTS NEW OFFICERS

Dr. B. L. Crawford President-Elect

Elevating Dr. E. Leroy Wilkins of Clarksdale to the presidency, succeeding Dr. H. Lowry Rush of Meridian, and selecting Dr. B. Lampton Crawford of Tylertown as the new president-elect, over 250 doctors closed the seventy-sixth annual convention of the Mississippi Medical Association May 11-12. They voted to return to Jackson next year.

Other new officers installed were Dr. Charles Hightower, Hattiesburg, Dr. Temple Ainsworth, Jackson, and Dr. C. W. Patterson, Rosedale, vice-presidents; Dr. G. Y. Gillespie, Greenwood, historian; Dr. Stanley A. Hill, Corinth, associate editor; Dr. J. Rice Williams, Houston, speaker of House; Dr. J. L. Lucas, Moorhead, councilor, First District; Dr. L. L. Minor, Desoto County, Second District; Dr. R. W. Caldwell, Baldwyn, Third District; Dr. J. P. Wall, Jackson, delegate to American Medical Association; Dr. Felix Underwood, Jackson, cary-over delegate.

DELTA MEDICAL SOCIETY

The Delta Medical Society held its fortieth semi-annual meeting at Greenwood, Mississippi, Wednesday, April 14, 1943, at 2:00 P. M. The following program was presented:

"Acute Nephritis in Childhood"—R. E. Wilson, M.D., Greenwood, Miss.

Discussion—Virginia Small, M.D., Greenville, Miss.

"Intestinal Obstruction"—W. W. Hall, M.D., Shelby, Miss.

Discussion—Hugh Gamble, M.D., Greenville, Miss.

"Goiter and Its Surgical Treatment"—Hugh Gamble, M.D., Greenville, Miss.

Discussion—L. B. Otken, M.D., Greenwood, Miss.

"Varicose Veins" — Alton Ochsner, M.D., Prof. of Surgery, Tulane University, New Orleans, La.

Dr. John Archer of Greenville, Mississippi, was elected president-elect. Col. Lawrence Long, director of the state Selective Service, was present and introduced the guest essayist, Dr. Ochsner. Attendance was good and the society was pleased to have several officers from the Greenwood and Greenville Flying School. It was decided to hold the fall meeting in Indianola the second Tuesday in October.

FEDERAL PROVISION FOR MATERNITY AND INFANT CARE

Maternity and infant care for nurses and infants of service men is now in operation in Mississippi. Under federal appropriation through the Children's Bureau of the Department of Labor, the State Board of Health administers the service.

Under the plan a pregnant woman may receive prenatal care from her private physician or in a county health department clinic. The physician decides on home or hospital delivery, and gives complete medical care for mother and child, including a physical examination of the mother six weeks after delivery.

The pre- and postnatal nursing service of the county public health nurse is a routine part of the program. Its aim is to see that the patient reports regularly to her doctor, and to help her make some preparation for her baby. Hospitals wishing to participate in this service must meet basic requirements for good obstetric practice. Although participation by hospitals and physicians is voluntary, many are coöperating in this program. A list of the hospitals assisting in this service will be published shortly for the information of physicians wishing to hospitalize their cases under this plan.

Color, race, financial status and length of stay in this state do not matter, for any woman whose husband is a sergeant or of lower rank in the army (or equivalent in the other branches of service) is eligible for this care. Likewise, medical and hospital care may be provided for sick infants under one year of age. Applications may be made through health departments, Red Cross, the American Legion, military posts, and county welfare agents. Application must be filled in by the patient and her doctor, and sent to the State Board of Health as early in the patient's pregnancy as possible. Patient, physician, hospital (when requested), are notified when the care is authorized. In an emergency, medical and hospital care may be given before an application is filed, but the application should be sent to the State Board of Health within twenty-four hours. The same procedure is followed for a sick infant's care.

Record-keeping has been reduced to the minimum commensurate with safe obstetric practice. Payment to physicians is made automatically upon receipt of the patient's completed medical record.

In view of a rapidly rising birth rate and an increasing shortage of medical personnel, the State Board of Health is offering its every facility to assist physicians in providing safe delivery for each soldier's wife, and a healthy heritage for her baby.

PEDIATRIC ANTIQUES ON TOUR

From a personal hobby enjoyed by the late E. Mead Johnson, Jr., the Collection of Pediatric Antiques has evolved into one of considerable historical importance, depicting as it does the progression of infants' feeding vessels from the Greece of twenty-five centuries ago down to time within our own memory.

This collection is on pilgrimage to colleges, hospitals, museums, libraries and other institutions of learning. Arrangements may be made for "stop-overs" upon application to the curator. Mead Johnson & Company, Evansville, Indiana, U. S. A.

DR. E. C. ELLETT HONORED FOR HALF-CENTURY OF SERVICE

In commemoration of his 50 years in the active practice of medicine in Memphis, Dr. Edward C. Ellett, 73, one of the South's best known specialists in diseases of the eye, was honored with a dinner given by the Memphis and Shelby County Medical Society at the University Club May 25.

In 1939 he was given the Leslie Dana Medal for service in the prevention of blindness. At the 1942 meeting of the American Academy of Opthalmology and Otolaryngology, Dr. Ellett was guest of honor and was given the Award of Merit in recognition of his services to the Academy as president, member of the council, instructor, and for his outstanding achievements in his specialized field of medicine. In June, 1942, he was given an honorary degree of LL.D. by Southwestern University.

Doctors in the Service

Capt. Jack E. Smith

Now a year on the New Hebrides Islands, Capt. Jack E. Smith is with the U. S. Army Dental Corps. He entered the service in January 1941.

Dr. Smith took his pre-medical training at the Vanderbilt School of Medicine, was graduated from Northwestern University, Chicago, (vice-pres. of his class) and from the University of Minnesota College of Dentistry. He is a member of the Chi Omega and the Trowel fraternities, of both of which he was president. For eleven years he practiced dentistry in Jackson, Tenn., before volunteering his services for his country soon after the declaration of war.

Dr. Smith is the son of Mr. and Mrs. Edd Smith of Corinth. He married Miss Edith Nimmo of Jackson, Tenn., and they have one daughter, Linda Gay, who is four years old.

Deaths

DR. JOHN B. HOWELL

Dr. John Blanch Howell, Sr., 62, of Canton, died at 9:30 Monday night, May 24, following a very brief illness. He was one of Mississippi's outstanding physicians, and the scope of his practice was probably unsurpassed by few if any other doctors in the state.

Dr. Howell received his B.A. degree from Millsaps College in 1902, his M.D. from Vanderbilt University in 1905. He did graduate study in general medicine and diagnosis at the New York Postgraduate Hospital in 1910. Since 1905 he engaged in an extensive general practice and surgery in Canton. He was chief-of-staff of the Kings Daughters Hospital, a member of the staff of Canton Charity Hospital, surgeon for the Illinois Central Railroad, physician-surgeon for the Pearl River Lumber Company, a member of the State Board of Health, chairman of the finance committee of the Mississippi State Medical Association for many years, and captain of the Mississippi National Guard since 1906. He was a Mason, a Knight of Pythias, a Rotarian (past-pres.), a member of the Phi Chi and Kappa Sigma fraternities, a Methodist.

Devoted to and active in the work of organized medicine, he was a member of the Central Medical Society (pres.), the Mississippi State Medical Association, the Southern Medical Association, and the American Medical Association. He did a vast amount of Red Cross work.

In 1908 Dr. Howell married Catherine Coleman, who survives. He leaves also a son, Dr. John B. Howell, Jr., of the U. S. Army Medical Corps, in service overseas; and two daughters.

DR. HUBERT FLURRY

Final rites were held May 7 in Booneville for Dr. Hubert Flurry, 48, who died of coronary occlusion. He was the health officer for Prentiss County, having taken the position last July, following his retirement from the Veterans Administration due to declining health.

Dr. Flurry received a B.A. degree from State Teachers College, pre-medical study and M.A. degree from the University of Mississippi, and his M.D. degree from the University of Pennsylvania, Philadelphia, Pa. His ten years' service with the Veterans Administration included appointments in Galveston, Texas, Aspinwall, Pa., and Lake City, Fla. When he retired from the Florida post he was chief surgeon.

He was a member of the Booneville Rotary Club, a Baptist, and a World War I veteran.

His wife, Mrs. Vivian Parker Flurry, two brothers and five sisters survive.

DR. SAMUEL ORR PRICE

Dr. Samuel Orr Price, practicing physician of Taylor, Miss., died of a heart attack at his home April 15.

Dr. Price received his medical education at the Memphis Hospital Medical College, Memphis, Tenn.

Surviving are his wife, Mrs. Allie Price; three stepchildren, Charlie Lee Murchison of Texarkana, George Edward Murchinson of Amory and Mrs. Ivy May McCain of Taylor.

Funeral services were held at the Clear Creek Baptist Church with burial in the church cemetery.

DR. R. D. KIRK, SR.

Dr. R. D. Kirk, Sr., died at his home after a prolonged illness May 5.

Dr. Kirk was a prominent physician for many years in Kirkville, a community about 12 miles east of Baldwyn, which was named for him. In his later years he practiced in Baldwyn. He retired several years ago. He was a member of the Methodist Church.

He leaves two sons, Maj. R. D. Kirk, Jr., of Tupelo and Newport News, Va., and Hunter Kirk of Baldwyn; three daughters, Mrs. Ruth Thomas of Tupelo, Mrs. Ira Caldwell of Baldwyn and Mrs. Alf Williams of Pontotoc; and a sister, Mrs. Adolphus Orr of Baldwyn.

DR. SALE TRICE

Dr. Sale Trice, well-known and highly respected retired physician of Tupelo, died suddenly at his home May 10.

Dr. Trice was a graduate of Tulane University, New Orleans.

Dr. Trice is survived by four brothers: Lindsey Trice, Dr. John Trice, Edwin Trice and Wilder Trice, all of Tupelo.

DR. ANGUS L. EMERSON

Funeral services for Dr. Augus Leslie Emerson of Hernando were held May 11 from the Hernando Baptist Church with the Rev. Milton W. Whitten of Hernando and Dr. J. Norris Palmer of Baton Rouge officiating. Burial was in the Baptist cemetery.

Dr. Emerson, who was about 78, died at his home following a stroke which occurred two weeks previously.

A native of Brownsville, Tenn., he had lived in DeSoto County since boyhood and had practiced there more than 50 years. He was one of the first members of the Board of Trustees of the Baptist Hospital at Memphis and still was serving on the board at the time of his death. He also served for a number of years on the Mississippi Baptist Executive Board and was a deacon of the Hernando Baptist Church.

Dr. Emerson served for 12 years as De Soto County health officer and was a past-president of the De Soto County Medical Society and a former vice-president of the Mississippi State Medical Association. He was also a member of the Mid-South Postgraduate Medical Assembly and the American Medical Association and was a surgeon of the Illinois Central Railroad.

He was the last surviving brother of the Emerson family, long prominent in business, church and social circles of north Mississippi.

Surviving are his wife, Mrs. Mattie Whitley Emerson; two sons, Angus L. Emerson, Jr., and Dr. C. W. Emerson of Hernando; three daughters, Mrs. Earl Denham of Hernando, Mrs. J. Norris Palmer of Baton Rouge and Mrs. G. W. Ward of Bradenton, Fla.

DR. W. W. BRYAN

Monroe County lost a good man and a most useful citizen when Dr. Wiley Bryan, 62, died at his home east of Aberdeen, April 24, following a long illness.

Dr. Bryan was a life-long resident of Monroe County. He was graduated from Memphis Hospital Medical College, Memphis, Tenn., in 1909.

He is survived by the wife, Mrs. Ola May Bryan; a brother, Dr. Guy S. Bryan of Silver City, Miss.; two half sisters, Mrs. Laura Kidd and Mrs. Lula Brassfield of Aberdeen; a niece, Mrs. C. R. Forsythe of Silver City, Miss.

DR. H. E. FRIZELL

Funeral services were held May 4 for Dr. Homer Frizell, who passed away at his home at Vaughan.

Dr. Frizell had been in ill health with tuberculosis for the past few years. In recent months, he had been at Sanatorium, but had been brought home several weeks ago and reported better.

He was born on June 30, 1883, in Montgomery County, the son of Dr. and Mrs. W. H. Frizell. He received his medical degree at the University of Nashville, Tenn., in 1908. He was a Mason and Shriner and a member of the Methodist faith.

Those left to mourn his passing are his wife, Mrs. Stella Wilson Frizell, and the following sisters and brothers: Mrs. Giles W. Lewis, and Miss Mary Ella Frizell, Satartia; J. V. Frizell, Sanford, Texas; Dr. W. H. Frizell and J. L. Frizell of Brookhaven; H. M. Frizell, Memphis; and T. F. Frizell, Vaughan.

Book Review

NUTRITIONAL DEFICIENCIES, by John B. Youmans, M.S., M.D., Associate Professor of Medicine and Director of Postgraduate Instruction, Vanderbilt University Medical School, Nashville, Tenn. Assisted by E. White Patton, M.D. Published by J. B. Lippincott Company, Philadelphia, Pa. Price, $5.00.

Great advances have been made in understanding the diseases caused by food deficiences, but few are the books which have correlated the results of experiment and clinical observation from the various sources. The practitioner has yearned for a critical, dependable book to use in the management of nutritional deficiencies in his practice. And probably no more concise, helpful and understandable presentation is available than Dr. Youmans' *Nutritional Deficiencies.*

The book takes up each vitamin deficiency in textbook fashion. History, symptoms, diagnosis and treatment of the nine vitamin deficiencies from A through K provide necessary material for managing these diseases. Protein, iron, iodine and other possible absences in the food intake are treated in like instructive manner. Then the author summarizes the vitamins in tables in a separate section in the latter part of the book. He also includes the principal dietary sources of essential food factors, and finally explains approved laboratory methods for diagnosing the deficiency diseases.

Nutritional Deficiencies is indexed for ready reference. There are 385 pages. It is an excellent text for use in the daily general practice.

Mississippi State Medical Association

Organized 1867

Next Meeting: Jackson, May 1944

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Exhibits:
Dr. D. W. Jones, Jackson
James Grant Thompson, Jackson

COMPONENT SOCIETIES

County Society	President	Secretary	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p.m.
Alcorn	Dr. W. A. Johns	Dr. William David May	Third Friday 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central	R. B. Austin, Forest	J. G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
Claiborne	W. N. Jenkins, Port Gibson	G. W. Acker, Port Gibson	
Clarksdale and Six	J. P. Walker, Lambert	G. R. Post, Clarksdale	1st Wed. Mar. & Sec. Wed. Nov.
Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	J. C. Runell, Jr., Cleveland	Sec. Wed. April & Oct., 2 p.m.
Desoto	C. W. Emerson, Hernando	L. L. Minor, Rt. 4, Memphis	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Philadelphia	N. C. Knight, Meridian	Quarterly
Franklin	Linfield Costley, Meadville	R. Costly, Meadville	
Issa-Shar-War.	H. H. Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	B. R. Clark, Lorman	W. T. Harper, Fayette	Second Thursday
Jones	J. S. Gatlin, Laurel	T. Paul Haney, Laurel	Second Friday 7:30 p.m.
Lauderdale	T. G. Cleveland, Meridian	R. L. Donald, Meridian	
Marshall		W. T. Harper, Fayette	
Newton	Z. C. Hagan, Union	Dudley Stennis, Newton	
North Mississippi	J. C. Culley, Oxford	A. H. Little, Oxford	3rd Wed., Jan., April, July, Oct.
Northeast Miss.	J. T. Senter, Fulton	A. J. Stacy, Tupelo	Sec. Tue., Mar., June, Sep., Dec.
Pike	W. F. Cotten, McComb	W. F. Cotten, McComb	First Thursday
Pontotoc	W. H. Reid, Toccopola	E. B. Burns, Ecru	
South Mississippi	H. G. Cook, Hattiesburg	J. P. Culpepper, Hattiesburg	3rd Tues., Mar., June, Sep., Dec.
Sunflower		H. B. Cottrell, Indianola	
Tallahatchie	G. Lacy Biles, Sumner	J. E. Powell, Charleston	
Tate	W. D. Smith, Senatobia	M. M. Powell, Jr., Coldwater	Second Wednesday
Tri-County	J. C. McGuire, Hazelhurst	R. B. Zeller, Hazelhurst	
Cop-Law-Lin-Wal.	J. J. Pittman, Tylertown	R. B. Zeller, Hazelhurst	Sec. Tue., Mar., April, June, Dec.
Webster	E. T. Arnold, Bellefontaine	H. K. Curry, Eupora	
Wilkinson	S. E. Field, Centreville	R. J. Field, Centreville	
Winona District	Edgar Giles, Avalon	S. B. Caruthers, Grenada	

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Eye—Alston Callahan, Vicksburg.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

OBESITY IN CHILDREN—I. P. Bronstein, L. J. Halpern, and A. W. Brown, Journal of Pediatrics, 21:485 (October) 1942.

The writer says that obesity in childhood is the most common so-called endocrinopathy encountered in pediatric practice.

For a number of years the writers have been investigating this problem. During this time several hundred obese children of variable ages with a tentative diagnosis of Frohlich's syndrome have been referred to them for study. They have attempted to find evidence, clinical, laboratory, or both, which might substantiate an underlying endocrine causation for their obesity and to study, at the same time, the effect of diet, various glandular products, and special drugs on this condition.

Forty-six patients coöperated sufficiently well in returning at stated intervals for repeated physical and laboratory checkups to be included in this report. "While all of these 46 chidren were referred because of their obvious obesity, this was not always the primary complaint which provoked their seeking medical aid. In nine instances, undersized genitals, and in nine others, undescended testicles were either the primary or associated complaints including three instances of not growing fast enough, two of periodic headaches accompanied in one by nausea, and one each of growing too fast, irregular menstruation, epilepsy, epileptic-equivalent, and eczema.

The writers state that the 46 children under observation consisted of 28 males and 18 females. There was a family history of obesity in 17 children, diabetes in four, goiter in four, and asthma in one.

The average age of the entire 46 children on admission was 10 years and 11 months. The 28 males averaged 11 years, 2 months; the 18 females, 10 years, 8 months. The youngest child was 4 years, 10 months, and the oldest 15 years. The average weight of the entire group on admission was 134¾ pounds, or 57 per cent overweight. The 28 males were 55 per cent overweight, compared to 59 per cent in the 18 females. Eight of the 46 children were more than 80 per cent overweight, three of which were 104 per cent, and 128 per cent overweight, respectively. The average height attainment of the entire group on admission was 57 inches compared to 60 inches, which is the average tall limit, and 47 inches, which is the average short limit for children of similar average ages.

It is said that the average duration of observation for the entire 46 children was two years and one month, although one child was observed for over six years, two for over five years, four for over four years, four for over three years, and three for over two years, thus making a total of 14 children, or one third of the entire group, that were observed for a period ranging between two and six years, while the balance were observed for a period ranging between six months and two years.

Throughout this study and at its conclusion, the writers were unable to find evidence of a single case of endocrine dysfunction in any of the 46 obese children. However, it cannot be overemphasized that obese children should be thoroughly studied in order to detect the occasional instance where a pathologic disturbance may underlie the adiposity.

In view of the negative findings obtained, the management consisted of limiting the daily diet to between 1,000 and 1,500 calories, restricting the fluid intake, and assuring an adequate daily consumption of the essential vitamins. In a number of instances, glandular extracts by mouth or by injection had been administered in variable amounts before the patients were referred for study. Obviously, their referral after such treatment attested to the ineffectiveness of such therapeutic procedures. Even though the treatment was at first dietary only, "associated complaints like undescended testicles and small genitals dictated that this be complemented later by the customary forms of endocrine therapy. Too, when adherence to the limited diet was poor, or repeated basal metabolism tests were appreciably low, thyroid extracts by mouth were administered in addition to the prescribed diet. As a result, only 25 (54 per cent) of the 46 children received as their sole treatment a restricted diet.

The average weight of the entire 46 children on the last visit was 149 pounds, or 52.7 per cent overweight compared to 134¾ pounds, or 57 per cent overweight on admission. The 28 males who were 55 per cent overweight on admission were 50.4 per cent overweight on the last visit, while the 18 females were 55.1 per cent overweight on the last visit compared to 59 per cent on admission. The 25 children who were treated by diet only and who averaged 64 per cent overweight on admission were 55 per cent overweight on the last visit. It is apparent that the average reduction of weight in the group as a whole at the end of the period of observation was negligible regardless of the type of treatment used. Better results were obtained in the group treated solely by diet but, with them too, the reduction of weight was the greatest when they coöperated in adhering to the limited diet.

From the foregoing it is apparent that no appreciable loss of weight was affected in the writers' series of patients regardless of the type of treatment used. However, they wish to emphasize that in their experience over a long period of observation, obesity in mentally adequate children tends to correct itself at or about puberty, at which time patients become cognizant of their obesity as a handicap and are then willing to coöperate satisfactorily in a dietary régime.

COMMENT

Like most physicians I have had quite a lot of experience with the mothers of this state who have children that are overweight. In the main I agree heartily with the above article, but would extend a note of warning that all these children should be thoroughly checked up. In other words they should have metabolism tests as well as blood chemistry to determine the exact status. Thorough examinations are of paramount importance in all these cases.

State Board of Health

Felix J. Underwood, M.D.

INDUSTRIAL HYGIENE PROGRESS

Production of goods and implements is one of the most vital phases of the war effort. Consequently the state and the nation is very much concerned with employee health and its conservation. Industrial expansion in Mississippi has received considerable impetus in recent months, and along with it have come new public health problems. To assist in the protection of employees, the Mississippi State Board of Health at its meeting on April 9, 1943, passed the following regulation which it is believed will be of interest to physicians:

Regulation: FIRST AID IN INDUSTRY

In every factory or other organization employing more than ten persons, in which power driven machinery is used, there shall be provided a first aid kit at all times free of expense to employees. Further, the executive officer of the State Board of Health may require such equipment to be furnished in mercantile establishments.

A suitable and easily accessible space shall be set aside for the administration of first aid. This space must insure a reasonable amount of privacy, both to the injured person and the one rendering first aid. A table for treatment purposes, chairs, hot water, soap, and clean towels shall be provided in said space. Toilet facilities should be conveniently located. A case shall be provided to hold all first aid equipment and supplies. This case shall be constructed as to exclude dust, and shall be kept clean. In all establishments where work is carried on in more than one building or on several floors, duplicate kits shall be supplied at the direction of the executive officer of the State Board of Health.

Where a hospital room is maintained for the use of employees who are injured or sick, the first aid kit may be dispensed with, except that in hazardous occupations a simpler kit should also be kept for immediate use in parts of the building located at a distance from the hospital.

In every establishment where a first aid kit is maintained, at least one person shall be instructed by a physician or registered nurse how to apply first aid to injured persons and shall have charge of the first aid and its maintenance. Such kit shall be for first aid only.

CONTENTS OF THE FIRST AID KIT

1. Tincture of iodine, or other suitable disinfectant.
2. Aromatic spirits of ammonia.
3. Saturated solution of boric acid.
4. Suitable ointment or solution for burns as recommended by the company physician.
5. One and two inch rolls of gauze bandage.
6. Packages of sterile gauze dressings.
7. One and two inch rolls of adhesive tape.
8. Absorbent cotton.
9. Tourniquet.
10. Pair of scissors.
11. Thumb forceps.
12. Medicine dropper.
13. Graduated medicine glass.
14. Paper cups.

* * * *

The chemical laboratory of the State Board of Health. a subdivision of the State Hygienic Laboratory, is now completed, and the industrial chemist, Mr. Morris A. Nussbaum, has already begun to make detailed studies to determine the exact concentrations of various potentially hazardous dusts, gases, and vapors in Mississippi industries. Routine investigations of industrial sanitation and drinking water facilities, sewerage studies, stream pollution studies, blood chemistry in connection with nutrition studies, etc., are contemplated in the near future.

This laboratory work will in no way replace or duplicate the activities of the chemical laboratory located at State College and provided for by the legislature, but is designed to take care of the public health chemistry essential to the work of such divisions of the State Board of Health as the Division of Industrial Hygiene, State Hygienic Laboratory, Division of Public Health Engineering, School Health, Nutrition, and others.

These additions and expansions of the services of the State Board of Health now make it possible for Mississippi industry to have the benefit of the same helpful consultation services that the more highly industrialized areas of the country have come to expect.

* * * *

The addition of C. R. Jones, industrial engineer, completes the staff of the newly-expanded division of industrial hygiene. Mr. Jones, who is a native of Oak Park, Illinois, holds a degree in chemical engineering from Purdue University. He has worked with the Wm. Wrigley, Jr., Company, the U. S. Gypsum Company, and has been associated with the industrial hygiene division of the United States Public Health Service since March, 1943. Other members of the division staff are Dr. J. W. Dugger, director; Dr. Wayne Ritter, associate director; Mr. Morris A. Nussbaum, chemist; and Mrs. Pearl Walden, nursing consultant.

* * * *

Dr. Felix J. Underwood, as president-elect of the American Public Health Association, was invited to speak before the Iowa public health workers at their annual association meeting on April 27. Speaking on the subject, "Public Health Today," Dr. Underwood called attention to the way in which almost every phase of public health activity has been stepped up to meet the problems of wartime. In spite of the increased responsibilities of an already over-taxed personnel. he stated his belief that the emergency presented unlimited opportunities for workers to broaden the educational scope of public health activity and perhaps to eliminate some of the barriers which have hampered the more widespread application of modern public health knowledge.

Dr. Underwood also addressed the Iowa State Organization for Public Health Nursing on the subject, "The Role of the Public Health Nurse in the War Effort."

* * * *

Colonel B. A. Dyar, regional medical officer, Fourth Regional Office of Civilian Defense, Atlanta, visited Jackson April 22 to confer with Dr. Underwood, state chief of emergency medical service, and Dr. Harley R. Shands who has completed the organization of the first USPHS-OCD affiliated unit in the state, which consists of fourteen physicians and one dentist. Upon completion of the unit, Dr. Shands invited the members to his home for dinner in order that they might meet Colonel Dyar who made a talk to the group, outlining the duties of the unit in connection with base hospitals, etc. Colonel Dyar also visited Vicksburg to confer with Dr. Augustus Street, who is forming a USPHS-OCD affiliated unit.

* * * *

Dr. W. H. Cleveland of Tupelo, director of the Lee County Health Department, is filling in three days of each week to relieve the vacancy of the Prentiss County Health Department left by the death of Dr. Hubert Flurry.

* * * *

The condition of Dr. Corinne S. Eddy, director of the Amite County Health Department, who is in the Baptist Hospital at Memphis as a result of an accident, is much improved. Although it will be necessary for her to be away from her duties for at least two months, it is gratifying to know that she is making satisfactory progress in her recovery. Dr. Kenneth W. Navin is acting director in Amite County during her absence.

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Dr. D. V. Galloway, who is medical director of the school health program, jointly administered by the State Board of Health and State Department of Education, addressed the Mississippi State Conference of Social Work, held in Jackson April 29-30. Dr. Galloway was president of the conference this year, another example of the leadership supplied by the State Board of Health personnel for worthy undertakings in fields allied to public health and medicine.

* * * *

Forty-eight Mississippi physicians attended an intensive refresher course in obstetrics and gynecology given by the Department of Graduate Medicine at Tulane University the week of April 19-23. The interest physicians have manifested in these stimulating courses is indicative of a profession eager and anxious to keep abreast of the rapid advances of medical science in order that they may give to their patients the very best that modern-day medicine has to offer.

* * * *

Mrs. Pearl Walden, industrial nursing consultant with the Division of Industrial Hygiene, attended the National Congress on Industrial Nursing sponsored by the U. S. Public Health Service in Washington. In addition, she observed the type of service being rendered in her field in Connecticut and New York. An increase in the effective utilization of nursing services in Mississippi industry is anticipated.

* * * *

New Books in the Library

Merritt, H. H. & Fremont-Smith, F., *The Cerebrospinal Fluid*, Philadelphia, W. B. Saunders Company, 1937.

Miller, Joseph, and Miller, Marie, *Parenthood in a World at War*, National Congress of Parents and Teachers, 1942.

Moon, V. H., *Shock, Its Dynamics, Occurrence, and Management*, Philadelphia, Lea and Febiger, 1942.

National Congress of Parents and Teachers, *Community Life in a Democracy, N.C.P.T.*, 1942.

The National Formulary, 7th ed., Official, November 1942, American Pharmac. Assn.

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N. O. P. H. N., *The Public Health Nursing Curriculum Guide*, 1942.

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Nelson, N. A. and Crain, G. L., *Syphilis, Gonorrhea, and the Public Health*, New York, The Macmillan Company, 1938.

Norcom, G. D., and Brown, K. W., *Water Purification for Plant Operators*, New York, McGraw-Hill Book Company, 1942.

Pelouze, P. S., *Gonorrhea in the Male and Female*, Philadelphia, W. B. Saunders Company, 1939.

Pillsbury, D. M., Sulzberger, M. B., and Livingood, C. S., *Manual of Dermatology*, Philadelphia, W. B. Saunders Company, 1942.

Proceedings of the Eighth American Scientific Congress, V. 6. *Public Health and Medicine*, May 10-18, 1940), Washington, Government Printing Office, 1942.

Rockefeller Foundation, International Health Division, *Collected Papers by Members of Staff*, v. 17, I and II, New York, Rockefeller Foundation, 1940. (These papers are on subjects relating to tropical medicine.)

Ruff, S. and Strughold, H., *Compendium of Aviation Medicine*, Army Medical Library, 1942.

Sappington, C. O., *Industrial Health—Asset or Liability*, Chicago, Industrial Commentaries, 1939.

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Strachey, John, *Digging for Mrs. Miller*, New York, New York, Random House, 1941.

Strain, F. B., *Sex Guidance in Family Life Education—A Handbook for the Schools*, New York, The Macmillan Company, 1942.

Sulzberger, M. B., *Dermatologic Allergy*, Springfield, Ill., Charles C. Thomas, Publisher, 1940.

Terman, L. M. and Merrill, M. A., *Measuring Intelligence*, Boston, Houghton Mifflin, 1937.

Todd, J. C. and Sanford, A. H., *Clinical Diagnosis by Laboratory Methods*, 10th ed., Philadelphia, W. B. Saunders Company, 1943.

United States Department of Agriculture, *The Mosquitoes of the Southeastern States*, Washington, Government Printing Office, 1942.

United States Printing Office, *Index-Catalogue of the Library of the Surgeon General's Office*, V. 7, "H." Washington, 1942.

United States War Department, *Technical Manual—Guides to Therapy for Medical Officers*, Washington, Government Printing Office, 1941.

United States War Department, *Technical Manual—Methods for Laboratory Technicians*, Washington, Government Printing Office. 1941.

Weiss, E. and English, O. S., *Psychosomatic Medicine*, Philadelphia, W. B. Saunders Company, 1943.

White House Conference on Children in a Democracy, *Final Report—January 18-20, 1940*, Washington. Government Printing Office, 1942.

Wilcox, Aimee, *Manual for the Microscopical Diagnosis of Malaria in Man*, Bulletin No. 180, Washington, Government Printing Office, 1942.

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Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

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TO OUR DOCTORS' WIVES*

DR. LOWRY H. RUSH

MERIDIAN, MISS.

For many years, sometimes I think a great many, I have been quite fond of doctors' wives—some doctors' wives at least. My sweetheart became a doctor's wife, my mother was a doctor's wife, my brother's wife is a doctor's wife, and many whom I call friends are the husbands of doctors' wives. I am sure that doctors' wives are about the best there is in wives, especially with war and rationing, taxes and more taxes, Ruml plans, etc. You are the incentive power which encourages the doctors of Mississippi to work night and day giving the best that they can, of their professional ability and of their lives, to the relieving of suffering humanity. You are among the leaders of your communities, among those who stand for the best in everything that is good and wholesome.

Knowing you to be leaders I have just one request to make of you for the coming year. I know that you are going to remember the wives of those doctors who are in the service of our country, and it is needless for me to remind you that, though you may not have been close friends before, there may be a real need for you to be closer friends now. The one thing I have in mind is the children of our country. In these times of war and stress and strain for all of us, I am sure that it is the children, the future citizens of our country, who are suffering and will suffer most. No, not many of them are going hungry, but some are. Most are properly clothed, and a large part of them have fairly adequate homes, or should I say, houses? Many of them do not have proper home training and care, and proper medical care. There seems to be plenty of money in our land, even to the point of inflation, but not all of it is put to the best and proper uses. Many children are truly suffering—suffering in mind and body, and some are becoming delinquent. Juvenile delinquency is becoming one of the greatest threats to our land, and seemingly there is less being done about it.

There is only one treatment—prophylaxis, prevention. That is where I am sure that you can do a very great work. You can lead others to see the dangers, the mine-fields, and booby traps,and help to save the youth of our state from lives worse than death. Anyone will notice and help a little fellow who is hungry or ill, but too few of us are willing to reach down and lend a restraining hand where our boys and girls are slipping into sin and disgrace and shame. I believe there are no groups in our land as capable of beginning, and then carrying on to a finish, this great work as are the wives of doctors.

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*Message brought to the Auxiliary to the Mississippi State Medical Association, in annual session, Jackson, Miss., May 12, 1943.

I am sure that you will find most willing helpers and encouraging backers in your husbands and other fine people of our state. The details? You can work out plans and methods. I believe I can assure you the full coöperation and encouragement of the doctors of the Mississippi State Medical Association. I am sure there is no task more worthy of the efforts of the Auxiliary of the Mississippi State Medical Association, and none that's more needful of the aid of the BEST WOMEN OF EARTH—THE DOCTORS' WIVES.

MRS. HAGGARD'S ADDRESS HIGHLIGHT OF ANNUAL SESSION

The 1943 annual luncheon of the Auxiliary to the Mississippi State Medical Association, held in the Rose Room of the Heidelberg Hotel in Jackson on May 12, was distinguished by at least three widely known personages, who attended and brought messages to the doctors' wives. Mrs. Frank N. Haggard of San Antonio, Texas, president of the Auxiliary to the American Medical Association, was an honor guest, as was Mrs. Richard Clark of Hattiesburg, Miss., president of the Auxiliary to the Southern Medical Association.

Presented by Mrs. V. B. Philpot of Tupelo, president of the state organization, Mrs. Haggard made her talk challenging and personal. In stating the most helpful ways doctors' wives can invest in the war effort, she urged that each auxiliary feel a personal responsibility to the women whose husbands are in the armed forces, and welcome them to the meetings; pay the dues of members who are absent with their husbands in the service, or who are engaged in patriotic work away from home; stress the opportunities and responsibility for doing more public relations work—child welfare, especially as related to the juvenile delinquency problem, encouraging the sale of Hygeia, and promoting health education.

Mrs. Haggard warned against the undueness of doctors' wives who fail to identify themselves as auxiliary members and thus lose much of the force the doctors need. She stressed the importance of keeping informed, of knowing the problems with which the profession is confronted, of getting in the habit of driving home the services rendered by the medical profession, to offset the persuasion of chiropractors and charlatans whom the public follow into false channels. "Never has the challenge to womanhood been greater in all the world," she concluded.

Mrs. Clark likewise appealed to the group for awakened effort. She headed her suggestions with a plea for better informed auxiliary members. Then she asked, "What contribution can you make toward the health of our people at this time? Have you made it?" She explained that distinguished service by doctors' wives at this time will add greatly to the reservoir of good will that the doctors have stored up. She also explained the Doctors Aides Corps, introduced and tried out by the Fulton County (Ga.) Auxiliary as a direct contribution to the war effort in Atlanta.

Mrs. D. J. Williams of Gulfport conducted a little anniversary service in token of the twentieth year the state organization has functioned. During a roll call of past-presidents each one present was recognized.

Miss Susie V. Powell, outstanding leader of Mississippi Federated Club work, emphasized the enlightened woman's role in influencing social standards, legislation and public thinking.

Following two beautifully rendered vocal numbers by Mrs. Lowry Rush of Meridian, Mrs. H. C. Ricks, the new president, presented the new official family.

MRS. L. J. CLARK NEW PRESIDENT-ELECT

Mrs. Lawrence J. Clark of Vicksburg was chosen the new president-elect of the Auxiliary to the Mississippi State Medical Association. She has been a regular attendant at the meetings for several years, and has accepted various duties which required careful performance. She has especially been active in her local auxiliary, where her energies have been turned to very successful Preventorium and Red Cross benefits, and Doctor's Day observances. She is sincere, gracious and faithful to a task undertaken.

The other members of the executive group are: Mrs. V. B. Philpot of Tupelo, first vice-president; Mrs. Henry Boswell, of Sanatorium, second vice-president; Mrs. W. H. Anderson of Boonevile, third vice-president, assisted by Mrs. Stanley Hill of Corinth; Mrs. R. B. Caldwell of Baldwyn, fourth vice-president; Mrs.

J. D. Simmons of Cleveland, treasurer; Mrs. George Riley of Jackson, secretary; Mrs. W. C. Pool of Cary, parliamentarian; Mrs. Harvey F. Garrison of Jackson, historian. Councilors are: Mrs. H. L. Cockerham of Gunnison, Mrs. B. S. Guyton of Oxford, Mrs. Thomas Gore of Houston, Mrs. J. K. Avent of Grenada, Mrs. George Owens of Jackson, Mrs. H. L. Rush of Meridian, Mrs. R. F. Ratliffe of Lucedale, Mrs. Lucian Gaudet of Natchez, and Mrs. R. C. Eley of Moss Point.

The following were appointed to head the departmental committees: Mrs. John B. Howell of Canton, Research and Romance of Medicine; Mrs. A. Street of Vicksburg, Public Relations; Mrs. A. G. Wilde of Jackson, Legislation; Mrs. C. C. Hightower of Hattiesburg, Memorial; Mrs. W. W. Crawford of Hattiesburg, Doctor's Day; and Mrs. P. R. Greaves of Jackson, corresponding secretary.

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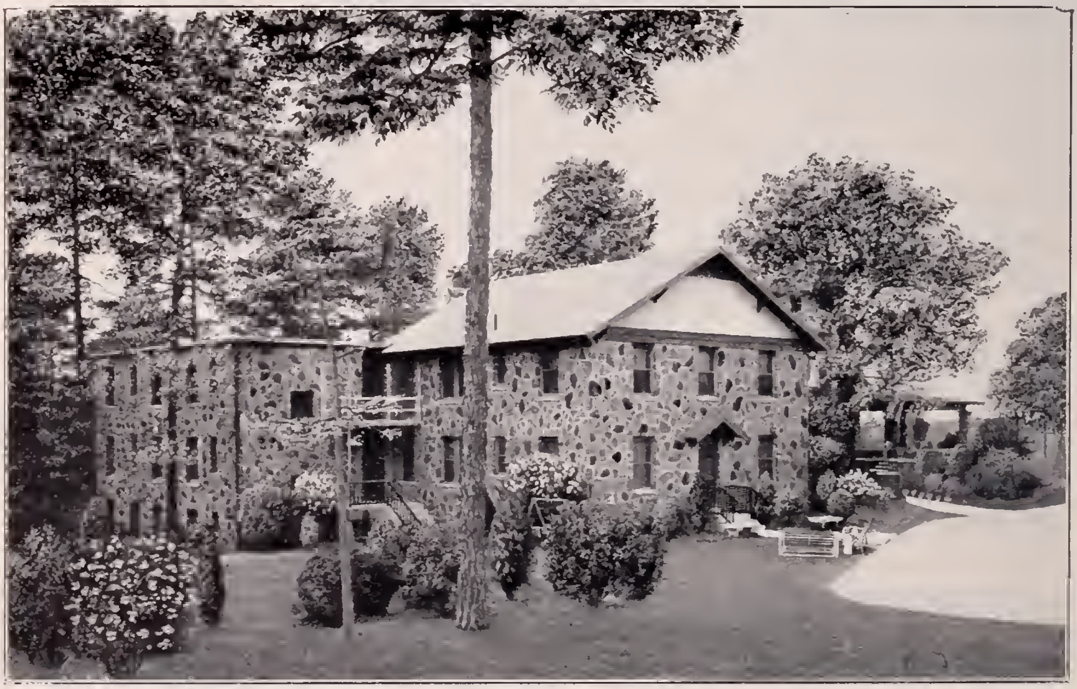

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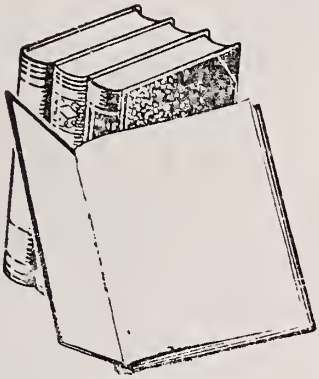

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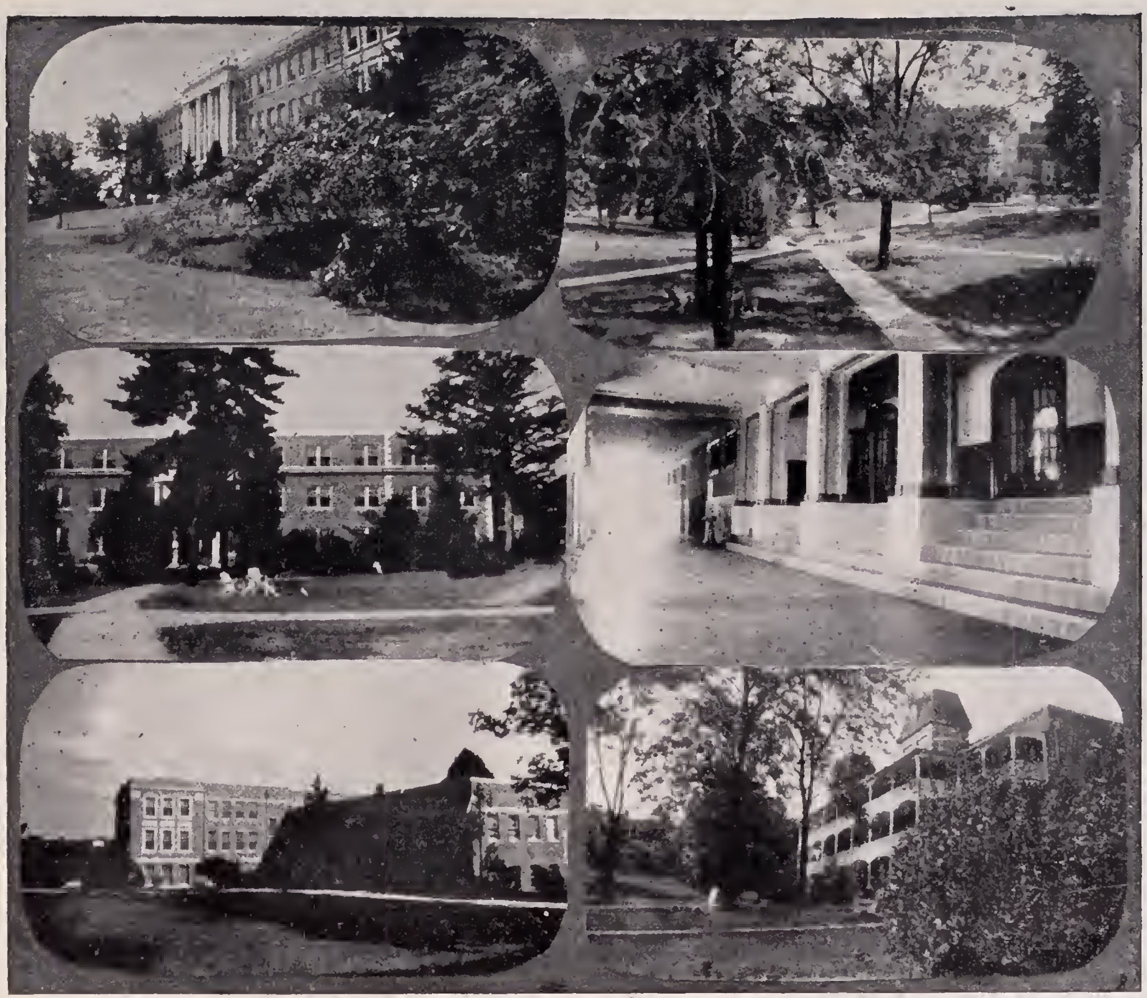

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